THE ECONOMIC POSSIBILITIES OF LAND SETTLEMENT

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LAND SETTLEMENT

A REPORT

PREPARED FOR THE

CARNEGIE UNITED KINGDOM TRUSTEES

BY

A. W. MENZIES-KITCHIN, M.A., B.Sc.

FARM ECONOMICS BRANCH, SCHOOL OF AGRICULTURE,
CAMBRIDGE UNIVERSITY

WITH A FOREWORD BY THE TRUSTEES

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TRUSTEES' FOREWORD

At the beginning of the year 1934, the fourth year of the quinquennial policy period 1931-35, we began to consider in a preliminary way our programme for the period 1936-40. Among the projects brought to our notice was that of Land Settlement. We decided to study it, not specifically from the standpoint of relief of unemployment but more generally as a social problem. In accordance with our custom, we agreed to obtain an expert report upon the problem, and we decided to entrust the task to Mr A. W. Menzies-Kitchin, a member of the staff of the Cambridge School of Agriculture, who was most generously released for a year from his academic duties for the purpose. The Report which follows is the result of inquiries in many parts of Great Britain, supplemented by data collected in the course of visits to appropriate parts of Germany, Denmark, and Holland.

Without agreeing with all his conclusions, we are of opinion that Mr Kitchin has produced a valuable document. He has collected and ably marshalled a mass of important information which will be of value to students of the subject –especially in its practical aspects –and with some of his conclusions (see pp. 136-8) we are in agreement. In particular, we feel that he has given an emphatic answer to those who believe that an unlimited number of families can be put on the land within a comparatively short time, and that therefore Land Settlement on a large scale can solve the whole problem of Unemployment. This view, in our opinion, is refuted by Mr Kitchin's data and the carefully reasoned arguments which he deduces from them. This in itself is a valuable contribution to the study upon which so many economists and students of social science are at present engaged.

It will be seen that Mr Kitchin is strongly in favour of part-time subsistence holdings for unemployed industrial workers (Conclusion 15 on p. 137). For these holdings, as a rule, the land can be rented or bought in the neighbourhood of the holders' homes; the quality of the soil is not of primary importance; the holdings provide exercise both mental and physical, and also additional food; their produce does not disturb existing markets.

This, in our opinion, is a sound conclusion. Group-holdings or

"subsistence" holdings ($\frac{1}{4}$ acre+), with which the Society of Friends have recently experimented, and which have lately been taken over by the Land Settlement Association, appear to us, for the reasons which Mr Kitchin gives, to deserve every encouragement. So strongly do we hold this view that we have already decided that we shall be willing to receive applications for grants in aid—not of allotment schemes proper, which are now so widely recognised as to need no further experimental investigation, but of co-operative group-holding or subsistence-holding schemes. We have already made a grant of £10,000 to the Land Settlement Association in respect of a programme which, when complete, is to produce 30 new settlements of this type, each of 40 men, at an estimated total cost of approximately £25,000.

As regards full-time settlement on 3-10 acre plots, Mr Kitchin is definitely of the opinion, as indicated above, that for many reasons it is unlikely to be successful on a large scale, and also that the mixed family farm of 30-50 acres is the most suitable unit of settlement. His chief reason for this conclusion (No. 12 on p. 137) is that the flexibility of its organisation enables that type of holding to adapt itself to sudden market fluctuations, and the fact that during a period of low prices the family can to a certain extent live off the holding. Moreover, both in England and Wales and in Scotland, Parliament has given adequate powers to finance holdings on this scale.

Mr Kitchin does not believe that there is a future for full-time smallholdings of the 3-5 acre type. He regards them as intrinsically weak economically in that, *inter alia*, they are liable to be severely hit by increases in the price of foodstuffs which they cannot produce themselves, and they are likely to have great difficulty in finding profitable markets and in competing with larger producers. We are convinced, however, that in families of limited means there is serious under-consumption of fresh vegetables, fruit, milk, and eggs. Attention was drawn to this fact in a report issued by the Scottish National Development Council, and it has since been emphasised by Mr John Robson in a memorandum to the Trustees and by Sir John Orr, who, in an address to the British Association at Norwich, stated that about twenty million of the population were living on a badly balanced diet and below a decent economic level, and that if this state of affairs could be remedied it would mean a largely increased market. We are of opinion that this is a most important aspect of the problem.

In so far as Mr Kitchin is referring to isolated individual small-

holdings on this scale, a strong case can be made for his view. Experience shows that many such holdings have been highly precarious. But, as Mr Kitchin points out, economies can be effected by establishing such holdings on a carefully planned system of co-operation—covering everything from the purchase of stock, foodstuffs, seeds, fertilisers, etc., to the final marketing, and there is urgent need for pioneer work in this field.

In this view we are confirmed by a number of considerations. Shortly after our own investigation began, we received and accepted an invitation from the Ministry of Agriculture to assist in forming, with the Society of Friends, the National Council of Social Service, and others, the Land Settlement Association to which reference has already been made. The Minister desired the Association to experiment with co-operative smallholdings of the 3-10 acre type, and promised a three-year grant—originally £50,000 a year on the basis of £1 for £2 raised from other sources, subsequently increased to £75,000 a year on the basis of £1 for £1. The Association's first duty was to take over the estate of Potton (Bedfordshire), the gift of Mr P. Malcolm Stewart, an original member of the Association, who resigned on becoming Commissioner for the Special Areas of England and Wales.

This estate will ultimately provide for 40 families; already 30 are in residence—all transferred after careful selection from the depressed area of the Durham coalfield. All had been unemployed for a considerable time, and all had had good experience as allotment holders. They are producing fruit and vegetables (both in the open and intensively in Dutch frames); they are also producing pigs and poultry. The details of the scheme have been so widely published as to need no description here. It is necessary, however, in view of Mr Kitchin's criticism of the isolated individual smallholding, to stress the completely co-operative character of the scheme which constitutes its experimental importance. We have been led by this consideration to make a special grant of £10,000—roughly one-third of the capital cost—in advance of our main policy, which has only recently been determined (see below).

We have been informed that it is the intention of the Association, during the period of the Minister's three-year grant, to establish five more schemes more or less of the Potton type, involving the settlement of approximately 200 families in addition to those at Potton. In one or two, owing to the unsuitability of the soil for market gardening, pigs and poultry will be the staple produce. One estate of this type has already been purchased at Andover in

Hampshire. We have accordingly made a second pioneer grant of £5000 towards the experiment. The Minister of Agriculture is understood to attach great importance to these experiments.

In addition to these six schemes, the Association has agreed to undertake for the Commissioner for Special Areas twenty other transference schemes of approximately forty families each. These schemes are being financed entirely by the Commissioner, and already a number of estates have been acquired. Altogether it is hoped that 1250 families will be settled in these experiments.

With this cumulative evidence before us as to the value of these smallholdings and group- or subsistence-holding experiments, we have finally decided to make Land Settlement of these two main types one of our chief activities for the period 1936-40, and to set aside an allocation of £150,000. This allocation will remain in our hands, and applications from the Land Settlement Association and from other sources will be considered on their merits.

It must be clearly understood that we regard the scheme frankly as an experiment—limited perhaps, but sufficiently wide to be regarded as a real field experiment. Like the Minister of Agriculture and the Commissioner for Special Areas, we hope it will answer the question whether, in spite of the admitted difficulties which have led Mr Kitchin to take a pessimistic view of isolated individual smallholdings, it is possible, under co-operative conditions, to provide a clean, healthy, and reasonably profitable career for families who would otherwise be condemned to stagnation and decay in the stricken areas. We attach the greatest importance to the human aspect of the question—a side with which Mr Kitchin's report does not purport to deal to any extent, and which Mr Robson emphasises in the memorandum to which reference has already been made. We consider also that these settlements may prove of great value in supplying recruits for the larger farming units of 50 acres and over, and in respect of Land Settlement in the Overseas Dominions of the British Empire. The experiment is on a scale which, however successful it may be, can hardly have adverse repercussions on foreign or home markets, and yet it should be large enough to enable competent observers to decide fairly definitely whether the policy is practicable or not. If the answer is 'yes,' it will be for the Government to see how far it can be incorporated in its future agricultural programme without prejudice to local trading and the exchange of goods from abroad.

For these reasons we feel, not in spite of but largely because of the difficulties which Mr Kitchin has enumerated, that the ex-

periment is one in which it is our clear duty to share, just as in the past we have co-operated with the Community in the experimental development of Libraries, Museums, Playing Fields, and other services.

We desire to take this opportunity of publicly thanking Mr Kitchin for the immense amount of valuable work which his report embodies, and the University Authorities for allowing him a free year in which to prosecute the Inquiry. Our thanks are also due to Mr Robson for the advice which he has given both in the planning of the Inquiry and in the consideration of the Report.

ELGIN.

December 1935.


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AUTHOR'S PREFACE

THE present interest in Land Settlement springs from a readily understood desire to alleviate the conditions of the unemployed, and there is reason to suppose that if there were no unemployment problem there would be no movement to place people on the land. Adopting the principle that, under present conditions, the expectation of increased employment is the main justification of Land Settlement, the success of any settlement policy will depend on its contribution to the "net" increase in the nation's employment. If, for example, the sole result of establishing efficiently organised colonies of unemployed coal-miners in one part of the country is to displace an equal number of unorganised small-scale producers in another, or the same district, the scheme must be considered to have failed. It is not sufficient for the new settlers to be successful, they must succeed without displacing existing producers. So also must any scheme be considered to have failed in its purpose if increased employment on the land results in further unemployment in the coal-mines or the cotton mills attributable to declining exports, which, in turn, result from lack of purchasing power in those countries which normally supply our agricultural imports.

Again, the main issue is not whether it is possible to increase the physical output of agriculture in this country, but whether, having increased it, we shall be any better off. It is not sufficient to be able to produce a commodity; it must be possible to sell it at a profit, and it does not follow that because a number of producers are supporting themselves by their particular forms of organisation, any substantial increase of producers with similar organisation can also make a living. Neither is there any particular advantage in providing work on the land unless such employment produces a net gain to the country's wealth, or if its main result is merely to depress the standard of living of those engaged in an industry the financial returns of which are already low. The economic progress of a nation involves a steady increase in the output of manufactured goods and of services. It also involves a decline in the proportion of its people who are employed in producing food and other primary products. The inventions of the nineteenth and twentieth centuries, by expanding and

assuring production, have put within man's grasp the ability to acquire the leisure for which he has struggled throughout the centuries. To force him back to the land merely to provide employment will necessitate a return to more primitive methods of agriculture, and a reversal of the normal trend of economic development. To embark on a policy of Land Settlement without considering these possibilities is merely to beg the question.

The purpose of the present enquiry, therefore, has been to consider in detail the wider political and economic implications and the more particular issues relating to organisation and size of the agricultural unit, which must have a bearing on the success of any scheme of Land Settlement, and to ascertain whether there is in fact a sound economic Land Settlement policy for this country.

The arguments which lead to the final conclusion will be found in the succeeding chapters. The conclusion, arrived at with great reluctance, is that a large-scale policy of Land Settlement in this country cannot be justified on economic grounds, and can have little influence in solving the problem of unemployment. If, on the other hand, settlement were undertaken for social or political reasons, it will require support either by dearer food prices or by direct subsidies. Whether the advantages of such settlement will outweigh the very considerable cost is a problem of social planning which must be decided by the politician rather than by the economist.

A. W. MENZIES-KITCHIN.

CAMBRIDGE, *August* 1935.

ACKNOWLEDGMENTS

To the Land Agents of County Councils, to the officials of the Ministry of Agriculture and of the Department of Agriculture for Scotland, to the members of Research Institutes, to the smallholders, and to the private individuals who assisted me in collecting the material for this Report I offer my sincere thanks.

Particularly I wish to thank Professor Larsen and Mr Ridder, of Copenhagen, Professor Zörner and Dr Rolfes, of Berlin University, and Mr Stevens, of The Hague, who made themselves responsible for my journey in their respective countries; Dr Carslaw, of Cambridge, who helped with the proofs; and finally Miss Edith Whetham, B.A., whose able assistance throughout the enquiry was invaluable.

A. W. M.-K.

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CHAPTER I

SCOPE AND METHOD

THE belief that Land Settlement offers a solution, or at least a part solution, to the problem of unemployment, arises from the fact that we import annually some £200,000,000 worth of agricultural produce of a nature similar to that produced in this country (see Appendix A), and the general argument advanced on behalf of a land settlement policy is that agricultural production in Britain should be increased at the expense of our imports of agricultural produce. This is to be done by the creation of smallholdings and by the exclusion of certain imports by quota or tariff. In presenting this policy, its supporters do not deny that restriction of imports may result in a contraction of exports with a concomitant decrease in employment in the exporting industries, but in so far as this possibility is considered, it is hoped, or assumed, that the additional internal purchasing power resulting from increased home production will in large part offset the fall in foreign demand.

In approaching the problem of settlement in this country, the effect of import restriction on the agricultural and economic position of those countries exporting agricultural produce must be considered. At the same time it is necessary to examine the effect of land settlement schemes in certain European countries.

Adopting the hypothesis that, by reason of his limited area, the smallholder must concentrate on the production of commodities of high cash value, viz. milk, eggs, pigs, poultry, fruit and vegetables, and must be able to sell his produce at a profit, we must ask ourselves—

(1) How far is the future trend of population likely to affect the demand for agricultural produce ?

(2) To what extent is *per capita* consumption likely to increase with an increase in spending power ?

(3) How far is the settlement of a considerable number of people on the land likely to create a surplus in the commodities they produce ?

(4) In the event of imports of certain commodities (viz. eggs or

tomatoes) being prohibited, how soon would over-production occur as a result of private capital flowing to the industry ?

(5) If certain commodities imported from foreign countries are excluded, is there any reason to believe that the "new" production can be most efficiently produced by the small man ?

(6) To what extent is the production of the luxury type of vegetable limited by the fact that it can only be purchased by persons in the highest income groups ?

(7) Is there any definite evidence of the overproduction of fruit, vegetables, pigs and poultry in this country ?

The answer to these questions can only be found by recourse to official statistics and by an historical approach to the problem, but it is on the nature of these answers that the success of a land settlement policy must ultimately depend. At the same time information must be obtained as to

(1) the financial position of existing producers of these commodities ;

(2) the size and type of holding on which they can be most profitably produced ;

To assist in solving the first aspect of the problem, financial records for 1932-33 were available for 1000 farms of all sizes and types in the Eastern Counties of England.[1] These records included 200 smallholdings between 20 and 50 acres in extent. There was, however, a lack of recent accountancy data in respect of holdings below 20 acres in size, and information in respect of these was therefore collected by personal visit to smallholders.

In dealing with the second aspect of the problem it was necessary to ascertain how far the smallholding is likely to survive in competition with the large farm, and to determine whether the large farmer can undersell the smallholder as a result of a lower scale of costs arising from a more economic and effective use of machinery, the utilisation of by-products in stock-feeding, and the greater freedom from disease. And carrying the enquiry still further, whether the 3-5 acre semi-specialised type of holding can successfully compete with the 20-50 acre family farm producing a wide range of products. In this connection we must consider how

[1] *An Economic Survey of Agriculture in the Eastern Counties of England*, Reports Nos. 19, 21 and 22, Farm Economics Branch, University of Cambridge.

far the success of both types of smallholding depends on access to market, on soil and climate, and on the resistance to price changes shown by their productive organisation—for example, on the extent to which fluctuations in the price of single commodities, such as eggs or feeding stuffs, can influence returns.

In the course of the investigation, more than 200 smallholdings were visited in the following counties :—

England.—Lancashire, Warwick, Worcester, Oxford, Cambridge, Essex, Bedford, Hertford, the Isle of Ely, Huntingdon, Stafford, the Kesteven, Holland and Lindsey divisions of Lincoln, Norfolk, Suffolk and Surrey.

Scotland.—Perthshire, Angus, Fife and the Lothians.

Of these counties, the Vale of Evesham in Worcester, Cambridge, the Isle of Ely, and Bedford are market garden areas in which the average size of holding is small. Lancashire is the home of the 3-4 acre intensive poultry holding, and carries a poultry population of 1094 birds per 100 acres of crops and grass, which is three times greater than that of any other county in England. The Eastern Counties contain more than one-fifth of the total pig population of the country.

" Subsistence " holdings for the unemployed, of half to one acre in extent, were visited at Wooler, Stanley and Crook, near Durham, at Barns of Claverhouse, near Dundee, at Bowhill, Crosshill, and Rosyth in Fife, and again at Philipstoun, Holmes, Bo'ness, Oakbank, and Stockbridge in the Lothians.

In order to supplement the data accumulated by personal visits, a questionnaire was sent to the agent of the County Council Small Holding Estate in every county in England and Wales (see Appendix B), while interviews were obtained with Land Agents, officials of the Ministry of Agriculture, and others who, from their knowledge of local conditions, were competent to express an opinion on rural matters.

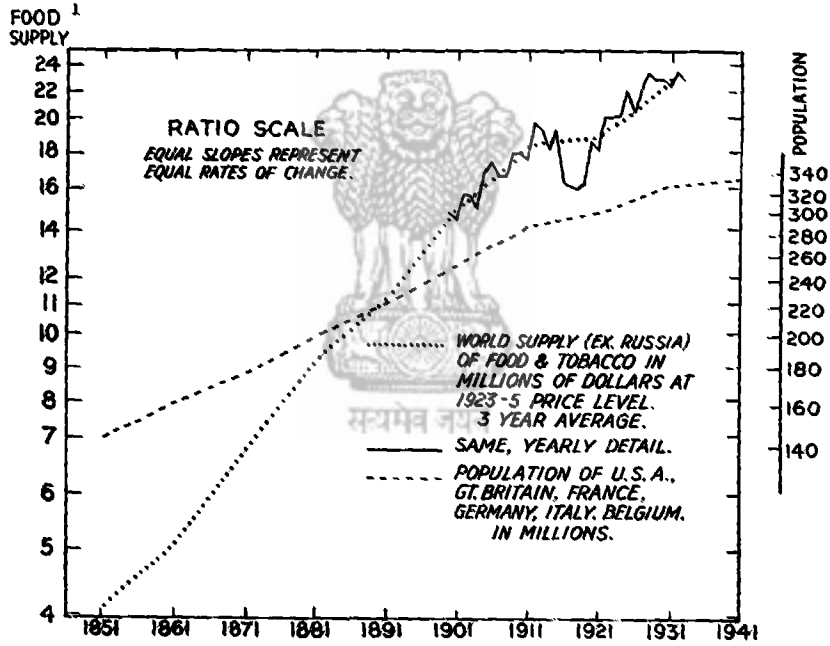
The data on Denmark, Germany and Holland were collected during a visit to those countries extending over a month. During the period information was obtained by interview from responsible officials, and a number of different types of smallholdings were visited. The conclusions arrived at, in the light of conditions in those countries, will be found in Chapter IV.

CHAPTER II

GENERAL CONSIDERATIONS

In this chapter we must briefly consider certain broad principles of a social and economic character, for which it is difficult to provide factual evidence, but which must exercise an important influence on any policy of Land Settlement.

Production and Technical Progress.—During the past 50 years the application of power and of engineering methods to manufacturing industry has enabled an increasing quantity of goods to be



supplied by a decreasing amount of labour. Compared with other industries, the application of machinery and of methods of precision to agriculture was slow, but since the war a rapid advance in

[1] *Proceedings of the Agricultural Economics Society*, "Expectations of Agricultural Recovery," R. Enfield, June 1935.

technical progress has occurred, and is likely to exercise a considerable influence on the number of people employed on the land.

The introduction of the tractor and of the combine harvester in cereal production, the invention of labour-saving devices in horticulture and in the livestock industry, the increase in milk yields and egg production as a result of selection of breeding stock, the use of artificial fertilisers and of improved varieties of seeds, and of scientific methods of rationing, has led to a speeding up of agricultural processes, while the more effective organisation of labour has led to a decrease in the labour requirements. The joint and increasing effect of these improvements in technique would appear to result in a gradual decline in the amount of labour required to produce a given unit of agricultural output, and, unless the demand for agricultural commodities can be considerably increased, must inevitably lead to a declining population on the land.

The production of most agricultural commodities is greater than before the war, and it will be seen from the following table that in most cases the volume of supplies entering into international trade has increased.

TABLE I

VOLUME OF INTERNATIONAL TRADE IN CERTAIN AGRICULTURAL PRODUCTS [1]

	1909-13 Average	1922-24 Average	1925-27 Average	1928-30 Average	Increase or Decrease, 1928-30 compared with 1909-13	
					Increase	Decrease
	Million Cwts.				%	%
Wheat	285	325	334	350	23	..
Barley	103	47	62	75	..	27
Oats	46	30	28	27	..	41
Maize	128	133	170	160	25	..
Ground Nuts	10·8	17	26·6	31·2	189	..
Linseed	28	31	39	39	39	..
Cotton Seed	15·2	12·6	13·2	14·4	..	5
Soya Beans	15·5	26·4	32·0	50·0	224	..
Butter	5·9	6·1	8·4	9·8	66	..
Cheese	4·1	4·9	5·9	5·9	44	..
Eggs and Egg Products	8·1	..	..	11·2	38	..
Bananas	24·0	..	..	46	92	..
Citrus Fruits	21·0	..	..	33	57	..
Beef	11·2	..	..	20·8	86	..
Mutton	5·1	..	..	5·7	12	..
Pork	9·3	..	..	15·1	62	..
Potatoes	16·0	22·0	27·0	75·0	56	..

[1] *World Agriculture*, p. 30.

Moreover, in spite of the fact that the population of the main industrial and food-importing countries has risen during the period, there is a greater available supply of food per head (see page 4).

Population.—A scheme of Land Settlement designed to support an increased population on the land must result in an increased production of food, and its success will depend on the extent to which the demand for agricultural commodities can be expanded. The economic system to which we are accustomed has been framed in the belief that we shall enjoy a continually expanding market. During the latter half of the nineteenth century, and up to the war, the growth of population was extremely rapid and was always slightly ahead of production. Since the war it has slowed down, and according to fertility rates, most Western countries are faced with a stationary and then with a rapidly declining population.

TABLE II

ESTIMATED FUTURE POPULATION OF GREAT BRITAIN [1]
(Numbers in 000)

Ages: Years	1931	1936	1941	1946	1951	1956	1965	1976
1—15	10,840·6	10,067·1	8,791·3	7,610·7	6,621·2	5,917·9	5,048·2	4,106·1
15—45	21,052·6	21,356·5	21,633·0	21,221·4	20,219·4	18,693·8	15,261·4	11,962·2
45—65	9,730·0	10,080·7	10,288·9	10,550·4	11,061·3	11,688·0	11,953·0	10,914·7
65 –	3,210·3	3,639·8	4,126·6	4,507·6	4,770·0	4,893·9	5,259·1	5,728·9
Total	44,833·5	45,144·1	44,839·8	43,890·1	42,671·9	41,193·6	37,521·7	32,711·9

It is estimated that the population of Great Britain will reach its maximum in 1936, after which it declines; during the period 1936-56 the rate of decrease is comparatively slow, but from 1956-76 it accelerates rapidly; over the whole period 1936-76 it falls from approximately 45 million in the former year to 32½ million in the latter, a decrease of 12½ million. This decline in population is accompanied by an important change in age distribution, for whereas in 1936 there are approximately 10 million children under 15, in 1976 the number has fallen to just over 4 million. Such a decline in population must have wide repercussions on the economic system. If these figures are roughly correct, we must look forward to a shrinking demand for a large number of commodities and particularly in the demand for food.

[1] *The Sociological Review*, April 1934, Dr Loybourne.

It may be argued

(*a*) that as estimates these figures are liable to wide error;

(*b*) that if spending power increased, more money would be spent on food.

In support of the former contention, the argument is advanced that a period of prosperity would raise the birth-rate and thereby negative Dr Leybourne's calculations. Certain changes in social outlook render this possibility unlikely even in the event of a "boom" period. Among these changes may be mentioned the much higher standard of living demanded by every class of society, the spread of birth control which is gradually penetrating to the working-classes, and the greater freedom and wider interests of women, who are unlikely ever again to spend 15-20 years of their lives bearing children. Further, it must be noted that these estimates do not depend on an assumption that the tendency to limit the size of the family will increase. Indeed, it is calculated that if present fertility and mortality rates were maintained, the population in Great Britain would decline by about one-quarter in each succeeding generation.

On the other hand, the argument that more money will be spent on food as purchasing power increases is valid, but it must be borne in mind that, owing to the inelasticity of the human stomach, and to the fact that food is generally a first charge on the householder's budget, this increase is likely to be less than is often assumed. Any increase which occurs will probably result in a change towards more expensive forms of diet rather than in an increase in bulk. In this respect, in so far as the change is likely to increase consumption in such commodities as bacon, eggs, poultry, fruit and vegetables, it will be favourable to their production.

It has been estimated[1] that the *per capita* consumption of food (1932 retail values) is approximately £24 per annum. A decrease of 12½ million in the number of consumers (*per capita* consumption remaining constant) would therefore decrease the annual requirement of food to the extent of some £300,000,000. Moreover, the shrinkage in the population under 15 would enormously decrease the demand for milk.

While the above estimates are crude in that they make no allowance for increased consumption *per capita*, or for alterations in consumption as a result of changes in the age-group composition, it is difficult to resist the belief that, on economic grounds, there is little opportunity for increasing employment on the land during the next

[1] Feaveryear, *Economic Journal*, March 1931; *Spending the National Income*.

half century, and that the present moment is highly inopportune for embarking on a policy of Land Settlement. Indeed, in the face of these facts alone, without the contributing factor of further mechanisation and increased efficiency in agriculture, to maintain the agricultural population at the present level would be no mean achievement. If this were done, it may be noted that in 1976 the number of persons engaged in Agriculture and Fisheries as a percentage of those between the ages of 15 and 65 would, accepting Dr Leybourne's estimate of total population, have risen from 3·8 per cent. in 1931 to 5 per cent. in 1976.

Supply and Demand.—Since 1929, the increase in agricultural production has been accompanied by a rapid fall in agricultural prices and by widespread distress throughout the industry. In order to arrest the fall in prices, quantitative restriction of production has been applied in many countries. At the same time, as a result of industrial unemployment, politicians and social workers have turned towards Land Settlement as a method of employing labour. We find, therefore, the curious phenomenon of an industry faced, on the one hand, with the perplexing problems of overproduction and low prices, and, on the other, with a movement which from its nature must result in an increased output.

When supply and demand are out of adjustment, the condition may be described as either overproduction or as under-consumption, according to the angle from which it is approached. The condition, however, cannot be corrected by increasing production, but only by an increase in effective demand. This increase in demand can be stimulated by two methods: (*a*) by lowering prices through more efficient production; such a course will bring the commodity within the reach of lower income groups, and will also increase consumption in those classes who are already consumers, or if demand is inelastic, will release purchasing power for employment on other commodities; or (*b*) by increasing the general purchasing power of consumers.

Unless spending power is increased or costs are lowered, any increase in demand for a particular commodity is merely a shift from one commodity to another and not "new" demand in any real sense. An increase in the consumption of a certain type of agricultural produce, spending power and costs remaining constant, can only occur at the expense of another agricultural or industrial commodity. Increased consumption, for example, of eggs and milk may occur at the expense of beef or mutton, and while it may be

argued that the former commodities provide a more nutritious diet, such a contention offers little consolation to beef producers whose market has been destroyed.

In a time of falling prices the industrialist tends to restrict production, but the production of the agriculturalist, at least during the first stages of a depression, tends in the opposite direction. Output cannot be stopped on a farm as it can on a factory; production is a long process, and if the land is not cultivated it will quickly deteriorate. The abandonment of the farm implies the abandonment of the home, and it will be undertaken less readily than the abandonment of the workshop. As a result of these and of other factors, the farmer, in an attempt to maintain his income, increases his gross output, and so aggravates the slump. At the present moment, by no means all foodstuffs produced are consumed. Wheat provides an outstanding example, but in this country Marketing Boards have been established to control production, milk is sold to manufacture umbrella handles at threepence a gallon, and vegetables and fruit rot in fields and orchards for lack of a profitable market. While the restriction of a nation's food supplies may be socially undesirable, if its population is insufficiently nourished, the agriculturalist, in restricting his production, is only following the lead of other industries. In fact, when we consider that food is a first charge on income, it is probable that at the moment there are in this country more families with empty grates, unsound footwear, or inadequate clothes than with empty stomachs, yet there is no movement towards the production of more coal, boots or suits for their consumption.

Further, while it is true that a rise in purchasing power will somewhat increase the demand for certain types of agricultural produce, the hope of a trade revival provides insufficient reason for a policy of land settlement, as it is impossible to estimate what may be termed the potential capacity for production of existing holdings. In fact, there is considerable evidence that a comparatively slight rise in price would stimulate production, particularly in vegetables, milk, eggs and poultry, without any addition to the number of producers. This problem, as it affects vegetables, is discussed in another chapter.

International Comparisons of Consumption.—International comparisons of the *per capita* consumption of various foodstuffs are often used as an argument for increasing the consumption of a specific commodity. In this connection it must be borne in mind

that as the composition of the national diet depends on climatic factors and on the habits, traditions and wealth of the people, international comparisons of the consumption of individual items have little meaning. For example, egg consumption is higher in Canada, more pork and margarine are consumed in Germany, more milk is drunk in Switzerland, more horse-meat is eaten in France, the United States eat more fruit and vegetables, China has a larger consumption of rice, than Great Britain. But, if all these standards were adopted in this country, it is extremely doubtful if the health of the nation would benefit! That the general standard of food consumption in Britain compares favourably with that in European countries is indicated by the following tables :—

TABLE III

PER CAPUT CONSUMPTION OF FATS IN THE UNITED KINGDOM, GERMANY AND THE NETHERLANDS. (Lb.)[1]

Year	United Kingdom				Germany				Netherlands	
	Butter	Margarine	Lard	Total	Butter	Margarine	Lard	Total	Butter	Margarine
Average 1924-27	15·4	12·4	8·1	35·9	13·4	15·2	8·1	36·7	12·5	17·7
1928 .	17·0	13·2	8·1	38·3	15·7	16·4		40·2	12·8	18·3
1929 .	17·8	12·9	8·6	39·3	15·9	17·3		41·3	12·8	20·1
1930 .	18·5	11·8	8·3	38·6	16·7	17·5		42·3	14·0	19·1
1931 .	20·9	10·3	8·3	39·5	16·3	16·2		40·5	15·9	17·6
1932 .	21·8	9·2	8·2	39·2	16·3	17·6		41·4	18·9	13·3
1933 .	23·5	8·4	9·1	41·0	17·6	13·0	7·6	38·2	16·6	11·1

TABLE IV

PER CAPUT CONSUMPTION OF EGGS IN THE UNITED KINGDOM AND GERMANY. (Numbers)[1]

Year	United Kingdom	Germany
1924 . . .	116	117
1931 . . .	160	130
1932 . . .	150	120
1933 . . .	152	101

[1] *Considerations on the Present Evolution of Agricultural Protectionism.* Memo. by Sir Frederick Leith-Ross, League of Nations Publication, 178 M. 97, 1935, II. B., p. 23.

TABLE V

PER CAPUT CONSUMPTION OF MEATS IN CERTAIN COUNTRIES.
(Lb.)[1]

Year	United Kingdom				Germany				
	Beef and Veal	Mutton and Lamb	Pig Meat	Total	Beef and Veal	Mutton and Lamb	Pork	Other Meats	Total
1927 .	71	27	40	138	38·1	1·5	68·8	1·8	110·2
1928 .	71	28	43	142	40·1	1·5	73·2	1·5	116·3
1929 .	70	28	40	138	43·0	1·5	67·5	1·8	113·8
1930 .	60	29	41	140	39·0	1·5	69·0	1·8	111·3
1931 .	67	29	47	143	36·5	1·5	72·6	1·4	112·0
1932 .	64	31	49	144	37·2	1·4	68·1	1·2	107·9
1933 .	63	34	48	145	36·1	1·5	70·1	1·3	109·0

TABLE V (*Continued*)

Year	France					Netherlands	Italy
	Beef and Veal	Pork	Mutton and Lamb	Horse	Total	Beef and Veal	Beef and Veal
1927 .	46	16	6·0	2	70	41	22
1928 .	48	17	6·0	2	73	40	23
1929 .	49	17	5·7	3	75	43	21
1930 .	45	18	6·3	3	72	39	19
1931 .	41	20	5·6	3	70	35	18
1932 .	42	19	5·6	3	70	39	18
1933 .	45	19	5·6	3	72	..	..

It should be noted that a land settlement policy has not led to a better dietary for the German people; during recent years increased prices have resulted in decreased consumption of fats, eggs and meat. Moreover, figures for average consumption do not indicate the full effects of high food prices on the economic welfare of the population, since the burden of high food prices is most severely felt by the poorer classes. In a memorandum on agrarian protection in Europe in the post-war period,[2] Sir Frederick Leith-Ross states that "detailed statistical information regarding changes in consumption in different social classes is not available, but there can be little doubt that protection has seriously aggravated the effects of economic depression on the standards of living of the industrial population of European countries."

[1] *Ibid*, p. 24. [2] *Ibid.*, p. 24.

Wage Rates and Employment.—In a small country such as England, where industry and agriculture lie side by side, it is probably impossible to maintain a large rural population with a standard of living considerably lower than that of the towns. In the long run, a successful land settlement policy must assure for the settlers a standard of living comparable with that of the employed industrial worker. The same problem to a lesser extent will arise with the existence of two groups of workers with dissimilar wage-earning capacity in agriculture itself. If, for example, the income of the agricultural labourer is maintained by statute, at a considerably higher level than the earning capacity of the smallholder, the demand for smallholdings is likely to decrease. The absence of an unemployment insurance scheme for the agricultural worker has hitherto given him a sense of insecurity as compared with the smallholder, but the proposed extension of unemployment insurance to agriculture will provide a considerable addition to the real income of the hired worker, and will place him in many cases in a more favourable position than the smallholder. In dealing with this point Professor Ashby states that "economic security now begins to lie with the person employed for wages rather than with the independent smallholder or family farmer."

It is the thesis of this Report that Land Settlement on a large scale could not provide for the settlers a permanent standard of living comparable to that of the industrial worker unless considerable assistance were given by the State. Such assistance could be provided in at least two ways :—

(*a*) by a policy of high internal food prices, as in Germany ; or

(*b*) by the provision of direct subsidies.

The former method is one likely to be strenuously resisted by our predominantly urban population ; it might indeed bring about the desired equality in the standard of living, but it would be by reducing that of the industrial worker rather than by raising that of the agriculturalist. The second, while probably the more economic and the more socially desirable, would make Land Settlement a direct charge on the Exchequer and would have to be supported by the taxpayer.

Marketing Boards and the Productive Unit.—But even if it were decided to subsidise the production of certain types of food, in order that the nation may be better fed, the evidence does not suggest that this increased supply could be most economically produced on smallholdings, or that, if agriculture were organised as

a public utility, the smallholding should be the chosen unit of production. In fact, the extension of Marketing Boards and of the policy of price fixing appears to favour the large-scale capitalist farmer working with a small profit margin on a large output, and deriving full advantage from modern methods of production. The creation of smallholdings at a time when agricultural production is moving naturally towards larger units would involve the creation of vested interests whose continued existence would depend on the willingness and ability of future governments to give them support. If the cost of this support should become so heavy that public opinion insisted on its withdrawal, the reversal of this policy might cause widespread distress.

CHAPTER III

ECONOMIC CONSIDERATIONS

Agricultural Population in Various Countries.—The economic proposition that we should obtain our food by the cheapest and most efficient method cannot easily be reconciled with the desire that not less than a certain number or proportion of the population should be employed on the land. And it should be realised that, if there is a conflict between an economic tendency to diminish, and a political or humanitarian movement to increase, agricultural employment, the economic tendency will probably win, unless further settlement gives rise to increased efficiency.

In this connection the experience of Continental countries which have attempted to maintain a large rural population in the face of adverse economic circumstances is interesting.

Below are given the figures of (*a*) total population gainfully employed, and (*b*) the total population employed in Agriculture and Fisheries in various countries for certain years.

TABLE I

POPULATION ENGAGED IN AGRICULTURE AND FISHERIES IN VARIOUS COUNTRIES[1]

Country	Year	Population gainfully employed 000	Population employed in Agriculture and Fisheries 000	Change in Agricultural Population + or − 000	Agricultural Population as % of population gainfully employed
France	1921	21,720·6	9,023·5	−823·6	41·5
	1926	21,394·1	8,199·9		38·3
Belgium	1910	3,491·8	783·4	−169·8	22·5
	1920	3,205·2	613·6		19·1
Italy	1921	18,283·3	10,264·2	−2,180·9	56·1
	1931	17,442·4	8,083·3		46·3
Denmark	1911	1,230·4	512·8	−38·2	41·7
	1921	1,361·8	474·6		34·8
Netherlands	1920	2,722·4	642·1	+13·1	23·6
	1930	3,185·5	655·2		20·6
England and Wales	1921	17,178·0	1,164·2	+8·0	6·8
	1931	18,853·4	1,172·0		6·2

[1] League of Nations: *International Statistical Year Book*, 1933-34 and 1934-35.

It will be seen in the preceding table that the problem of preventing an absolute as well as a relative decline in the agricultural population is general in European countries. In fact, except for the Netherlands and ourselves, where there has been an absolute but not a relative increase, there has been an absolute as well as a relative decline in each country enumerated. In Italy, in spite of land reclamation and an intensive settlement campaign, the population employed in Agriculture and Fisheries has fallen by approximately 2½ million, and in France by 1 million.

While the percentage of the population of England and Wales engaged in agriculture is low compared with Continental countries, a more useful comparison is gained if the agricultural population of the British Empire is considered.

The following table relates to the population of the British Empire engaged in Agriculture and Fisheries in 1921. In order to effect a more accurate comparison, white and other races have been kept separate.

TABLE II

POPULATION OF THE BRITISH EMPIRE ENGAGED IN AGRICULTURE AND FISHERIES, 1921[1]

	Occupied Population 000	Population employed in Agriculture and Fisheries 000	Agricultural as % of Occupied Population
A. *White Races.*			
Union of South Africa	539·8	168·7	31·2
Canada	3,173·2	1,110·7	35·0
Australia	2,320·8	531·9	22·9
New Zealand	511·6	143·7	28·1
Irish Free State (1926)	1,301·6	677·9	52·1
England and Wales	17,178·0	1,164·0	6·8
Scotland	2,179·3	216·9	10·1
Total	27,204·3	4,013·8	14·7
B. *Other Races.*			
Union of South Africa	3,799·0	2,848·9	75·1
India (inc. Indian States)	140,648·0	101,694·0	72·3
Total (other races)	144,447·0	104,542·9	72·4
Total white and other races	171,651·3	108,556·7	63·2

From the above figures it will be seen that 11·1 per cent. of the white races and 72·4 per cent. of the other races, or 63·2 per cent. of the total population of the Empire, are engaged in Agriculture

[1] League of Nations: *International Statistical Year Book*, 1933-34.

and Fisheries. In this respect it may also be noted that if a high proportion of the occupied population tilling the soil were a criterion of national progress, India would be the most progressive country in the Empire.

Agricultural Employment.—The main factor in rural depopulation has been the relatively low incomes, compared with other occupations, to be derived from the farming industry, while poor housing conditions and the lack of social amenities have still further accentuated the drift to the towns. Nevertheless, the agricultural worker until 1929 enjoyed fairly secure employment, but the rapid decline in the price of agricultural produce in the past few years, in conjunction with a decrease in arable acreage, has resulted in a considerable measure of unemployment among agricultural labourers. Labour has been the farmers' main item of expenditure, and, as in other industries, men, where possible, have been replaced by machines in an attempt to reduce costs.

The extent of employment in agriculture in England and Wales for the years 1924 and 1933 is given below :—

TABLE III

AGRICULTURAL EMPLOYMENT IN ENGLAND AND WALES, 1924 AND 1933[1]

Year	Regular Workers				Casual Workers			
	Males		Females	Total	Males		Females	Total
	Under 21	Over 21			Under 21	Over 21		
1924 .	140,772	441,491	62,276	644,539	26,461	88,533	46,930	161,924
1933 .	113,589	422,519	59,603	595,211	10,924	78,531	30,380	119,835
% Decrease	19	4	4	8	59	14	35	26

It is indicated by these figures that there has been a decrease of 48,328 or 8 per cent. in the number of regular labourers, and of 42,089 or 26 per cent. in the casual labourers employed in agriculture. Caution must be used in interpreting the figures for casual labour, as the 4th of June Returns in respect of casual labour may be considerably affected by earliness or lateness of the season. If the comparison were made with 1932 instead of 1933, the number of casual labourers would have fallen by 64,081 or 36 per cent. Moreover, alterations in agricultural practice may change the requirement for casual labour at different seasons, and there is no doubt that this has occurred as a result of the large increase in the acreage

[1] *Agricultural Returns*, 1924 and 1933.

of sugar beet since 1924, which has increased employment in the final three months of the year. As a result of this fact, whereas the casual worker in 1924 may have been employed during 3 to 4 months of the year, the worker in 1933 has probably obtained 5 to 6 months' employment. In dealing with agricultural employment for the period 1924-33, therefore, the decline of 8 per cent. in regular employment is the more accurate index of the real position.

The Value and Character of the Agricultural Output.—The question of the value and character of the agricultural output follows naturally from a consideration of agricultural employment. It is important to determine whether the decline in agricultural employment has resulted in a decrease in the value, or more particularly in the physical quantity, of the agricultural output, and further, to examine any changes which have taken place in its character. The estimated value of the output of agricultural and horticultural produce in 1925 and 1930-31 is given below :—

TABLE IV

ESTIMATED VALUE OF THE OUTPUT OF AGRICULTURAL AND HORTICULTURAL PRODUCE IN ENGLAND AND WALES, 1925 AND 1930-31 [1]

	Estimated Value		Percentage of Total Value	
	1925	1930-31	1925	1930-31
Livestock and Livestock Products –	£000	£000	%	%
Livestock	84,210	64,960	36·1	32·1
Milk and Dairy Products	54,970	54,970	23·5	27·1
Poultry and Eggs	15,260	21,010	6·5	10·4
Wool	3,000	1,310	1·3	·6
Total	157,440	142,250	67·4	70·2
Farm Crops				
Corn	24,090	9,850	10·3	4·8
Potatoes	11,830	11,680	5·1	5·8
Sugar Beet	1,070	6,760	·5	3·3
Hops	3,370	950	1·4	·5
Hay, Straw, etc.	5,110	3,980	2·2	2·0
Total	45,470	33,220	19·5	16·4
Fruit, Vegetables, Flowers, etc. –				
Fruit	11,270	7,800	4·8	3·8
Vegetables	12,910	12,270	5·5	6·1
Flowers grown in the Open and Nursery Stock	1,600	1,550	·7	·8
Glasshouse Produce	4,830	5,570	2·1	2·7
Total	30,610	27,190	13·1	13·4
Total, all kinds	233,520	202,660	100·0	100·0

[1] *The Agricultural Output of England and Wales*, 1930-31.

Between the two census years, therefore, the value of the agricultural output has fallen from £233,520,000 to £202,660,000, a decrease of £30,860,000 or 13 per cent. The value of livestock and livestock products has fallen by £15,190,000, but this group has increased its percentage of the total output from 67·4 per cent. to 70·2 per cent. Within the livestock group, the value of the output of livestock has declined by £19,250,000 or 23 per cent., and that of wool by 56 per cent. On the other hand, the value of milk and dairy produce shows no change, reduction in price being balanced by increases in quantity, while the value of poultry and eggs has risen by 38 per cent.

The value of farm crops has declined by £12¾ million or 27 per cent., and the crop output constitutes only 16·4 per cent. of the total agricultural output in 1930-31 against 19·5 per cent. in 1925. This decline mainly occurs in the value of corn crops.

The above changes in total value are the result of changes in both quantity and average selling prices. The separate effects of each of these two factors are indicated below, where the individual items of 1925 quantitative output have been revalued on the basis of 1931 prices in order to ascertain the quantitative changes.

TABLE V

QUANTITATIVE CHANGES IN AGRICULTURAL OUTPUT, 1925 and 1930-31 [1]

	Output in 1925, valued at prices in 1930-31	Value of Output in 1930-31	Increase (+) or Decrease (−)
	£000	£000	%
Livestock	70,620	64,960	− 9·0
Dairy Produce	48,780	54,970	+12·7
Poultry and Eggs	12,910	21,010	+62·7
Wool	1,260	1,310	+ 4·0
Total Livestock and Livestock Products	133,570	142,250	+ 6·5
Farm Crops	34,810	33,220	− 4·6
Fruit and Vegetables	19,860	20,070	+ 1·1
Total [2]	188,240	195,540	+ 3·9

The table indicates that between 1925 and 1930-31 there has been an overall increase of about 4 per cent. in the volume of agri-

[1] *Agricultural Output*, 1930-31. H.M. Stationery Office.

[2] Not including flowers, nursery stock and glasshouse produce in respect of which the price information is inadequate.

cultural output, while if the increased cultivation of flower and glasshouse produce were taken into account the general increase would be greater.

Between the two census years the volume of output of livestock fell by about 8 per cent., this reduction being almost entirely due to a substantial fall in the output of pig meat. As this fall resulted from the fact that in 1925 the pig cycle attained its maximum and in 1930-31 was at its lowest point, the reduction in pig meat does not indicate a general trend. If pig meat therefore is excluded, there has been an increase of about 7 per cent. in the combined output of other kinds of fat stock, and the general increase in the agricultural output is raised from 4 per cent. to about 9 per cent.

It is therefore apparent that there has been an increase in the physical output per person employed, and that the total agricultural production has not only been maintained but has been increased during the period.

Farming Area.—The farming area in England and Wales (1933) comprised (excluding rough grazing) 25,119,648 acres, of which 15,869,762 acres or 63 per cent. of the total was pasture, and 9,249,886 acres or 37 per cent. was arable land (see Appendix C). In addition, 5,397,776 acres were returned as rough grazing. Compared with 1924, these figures show an increase of 900,000 acres or 6 per cent. in permanent grass, and a decrease of 1,700,000 acres or 15 per cent. in arable land, while the total farming area has declined by 750,000 acres or 3 per cent. The decrease in arable acreage is the result of the low world price of cereals, which has compelled the British farmer to direct his production towards those commodities the prices of which have remained relatively high—livestock and livestock products.

The decrease of 750,000 acres in the farming area which has occurred since 1924 has been, for the most part, the result not of adverse agricultural conditions, but of absorption of agricultural land for non-agricultural purposes. The following table indicates the area of reclaimed land and the area of land utilised for non-agricultural purposes in each of the years 1928-34.

TABLE VI—

TABLE VI

LAND WITHDRAWN FROM AND ADDED TO AGRICULTURAL AREA, ENGLAND AND WALES, 1928-34 [1]

Year	Increase	Decreases			
	Reclaimed Land	Buildings, Roads, etc.	Woods and Plantations	Waste and Vacant	Sports
	Acres	Acres	Acres	Acres	Acres
1928 .	12,360	38,770	18,460	9,490	11,280
1929 .	13,420	39,990	19,650	14,430	8,200
1930 .	16,550	41,050	15,720	10,660	11,600
1931 .	14,450	42,910	30,050	9,260	11,420
1932 .	13,170	36,910	17,100	6,990	7,700
1933 .	18,840	41,070	20,210	11,730	12,130
1934 .	14,120	51,360	13,510	3,450	10,800

It will be observed that while an acreage of approximately 15,000 acres of land was reclaimed in each of the years 1928-34, areas varying from 70,000 to 90,000 were devoted annually to non-agricultural uses. The net decline of 55,000 to 75,000 acres per annum accounts approximately for the 750,000 acres lost to agricultural production during the period 1924-33.

Size of Holding.—The following figures show the approximate distribution and area of agricultural holdings of over one acre in size in England and Wales in 1933.

TABLE VII

NUMBER AND ACREAGE OF AGRICULTURAL HOLDINGS IN ENGLAND AND WALES IN VARIOUS SIZE GROUPS, 1933 [2]

Size Group	Number of Holdings	% of Total of Holdings	Average Size	Acreage in each Size Group	% of Total Acreage
Acres	No.	%	Acres	Acres	%
Above 1 and not exceeding 5	68,864	18·0	3·1	216,578	0·9
5 ,, ,, 20	100,591	25·8	11·3	1,136,678	4·5
20 ,, ,, 50	76,907	17·8	33·8	2,599,253	10·3
50 ,, ,, 100	62,380	16·1	72·6	4,528,788	18·0
100 ,, ,, 150	32,183	8·3	122·8	3,952,072	15·7
150 ,, ,, 300	34,644	8·9	209·1	7,244,060	28·9
Above 300	11,870	3·1	460·5	5,466,135	21·7
Total .	388,433	100·0	63·2	25,143,564	100·0

[1] Unpublished data provided by the Ministry of Agriculture.

[2] *Agricultural Returns*, 1933. The figure for the average size of holdings is taken from *The Agricultural Output*, 1925, and has been multiplied by the number of holdings in each size group in 1933, to obtain an estimate of the acreage in each size group.

These figures show that 18 per cent. of the total number of holdings are less than 5 acres in extent and 43·8 per cent. are less than 20 acres, although the former represents less than 1 per cent. and the latter only 5·4 per cent of the total area concerned. At the other extreme are those holdings above 300 acres which, while covering more than 21·7 per cent. of the total farmed area, represent only 3·1 per cent. of the total number of holdings.

Referring to Table VII, it should be noted that data relating to holdings of less than 20 acres in size must be accepted with caution. A considerable proportion of these undertakings are not genuine agricultural units, while others are isolated grass fields which may be better described as accommodation pasture. For example, a survey of Hertfordshire[1] showed that, of the total number of holdings in the returns of the Ministry of Agriculture, no less than 14 per cent. were private gardens and parks, 4 per cent. were contractors', brewers' and butchers' yards and paddocks, 3 per cent. were attached to public houses, garages and cafés, 2 per cent. were unoccupied or derelict, and 1 per cent. were recreation grounds. Practically all these non-genuine agricultural undertakings fall into the 1-20 acre size group, and while Hertfordshire, owing to its proximity to London, cannot be considered representative of rural areas, there is sufficient evidence to suggest that about half of all holdings under 5 acres in size, and between a quarter and a third of all holdings below 20 acres, are not agricultural undertakings in the commonly accepted meaning of the term, and might with advantage be excluded from the official returns.

The remainder of the holdings below 20 acres in size may be divided into two categories, viz. (1) the part-time holding of which the occupier derives his main income from other sources, and which is generally in the nature of an allotment, and (2) the specialist holding, producing fruit, vegetables, poultry, nursery garden and glasshouse produce, and mainly providing full-time employment for the occupier, who is sometimes dependent on hired labour. While there is no clear dividing line between these two groups, it is probable that they occur roughly in the proportion of 3 to 1. The part-time occupier relying on some possibly non-agricultural source for his main income, and who frequently considers his holding more as a source of domestic food supply than a commercial enterprise, has little claim to direct attention. The specialists, on the other hand, contribute a considerable proportion of the agricultural output, and provide a surprisingly large amount of employment.

[1] Report No. 18, Farm Economics Branch, School of Agriculture, Cambridge.

It is estimated that the glasshouse industry alone employs nearly 7 workers per acre, and provides up to £2000 worth of produce per acre.[1]

In County Council smallholding schemes, the percentage of part-time smallholdings in the various counties shows a wide variation (see Appendix B). In the Isle of Ely, where the County Council owns some 14,000 acres, approximately 75 per cent. of the holdings are let to agricultural labourers who cultivate anything from 1 to 5 acres as a part-time occupation. Roughly 60 per cent. of the tenants on the Nottingham County Council Estate are part-time smallholders, the majority being miners occupying from 1 to 5 acres of bare land with pigs, poultry and vegetables, while in Flintshire 25 per cent. of the holdings are occupied by part-time men. On the other hand, in Dorset and East Suffolk only 5 per cent. of the holdings are in part-time occupation, while in Norfolk, Derby and Worcester the proportion is 10 per cent.

Recent Changes in Size of Holding.—Farming practice alters as a result of changes in levels of prices and costs, and new systems bring in their train alterations in size of holding. Even during the last twenty years, as will be seen from the following table, a considerable change has occurred in the number and size of agricultural holdings.

TABLE VIII

DISTRIBUTION BY SIZE OF HOLDING IN ENGLAND AND WALES, 1913 AND 1933[2]

Acres	1913		1933		Change
	Number	%	Number	%	Number
Above 1 and not exceeding 5	92,302	21·3	69,864	18·0	22,438
5 „ „ 20	122,117	28·0	100,591	25·8	-21,526
20 „ „ 50	78,027	17·9	76,901	19·8	1,126
50 „ „ 100	59,287	13·6	62,380	16·1	+ 3,093
100 „ „ 150	31,838	7·3	32,183	8·3	+ 345
150 „ „ 300	37,593	8·6	34,644	8·9	- 2,949
Above 300	14,513	3·3	11,870	3·1	2,643
Total .	453,677	100·0	388,433	100·0	-47,244

It is evident from the above table that a decrease of 47,244 or 10 per cent. has occurred in the number of agricultural holdings between 1913 and 1933. Practically all this decrease has taken

[1] *The Agricultural Output*, 1925.

[2] *Agricultural Returns*, 1913 and 1933.

place in the two smallest size groups; the number of holdings between 1 and 5 acres has fallen by 22,438 or 26 per cent., and the number between 5 and 20 acres by 21,526 or 18 per cent., and the total number of smallholdings -those holdings between 1 and 50 acres- has fallen from 292,446 in 1913 to 247,356 in 1933, a decrease of 18 per cent. Both the number and percentage of holdings between 100 and 150 acres in size have increased, in spite of the large number of new smallholdings created during the period. Holdings above 300 acres in extent have decreased in number.

There are certain dangers, however, in accepting these figures too literally, as they may be influenced by non-economic factors. For example, the very great decrease in the number of holdings below 20 acres may be attributed in part to the increasing accuracy of the returns of the Ministry of Agriculture in excluding non-agricultural holdings, or again to holdings being absorbed in building development near towns, which are generally encircled by holdings of the smaller type. Nevertheless, a part at least of the shrinkage in the number of holdings below 20 acres in extent must be attributed to the disappearance of this unit as a result of its uneconomic size, while the decrease in the number of holdings above 150 acres is largely the result of the activities of County Councils and the Forestry Commission, and of the gradual decline in the number of large arable holdings which has accompanied the decrease in arable acreage and the increase in livestock production.

The Balance of Trade.—The fact that Great Britain has an adverse balance of trade with certain countries from whom she imports agricultural produce is often cited as a reason for expanding our agriculture. This argument is open to the following objections: –

(1) The balance of trade between Great Britain and any individual country is of little significance, since it is only part of the total annual balance of payments for the whole of Great Britain's international trade. A debit balance with one country may be offset by a credit balance with another.

(2) As a creditor nation, Great Britain must have an adverse balance of trade on her merchandise account if she is to receive interest payments on her foreign investments. Further, as the bulk of these investments are in agricultural countries, she must be prepared to take payment largely in agricultural products.

(3) Invisible exports, such as banking, shipping and tourist traffic, are often omitted.

(4) An export of gold to meet the balance of payments of a country on the gold standard does not necessarily mean that the country in question is "living on its capital," as capital may be accumulating through home investment.

(5) For a country on a gold standard, a continuing adverse balance of payments results in an export of gold, which must be checked by high discount rates and lowered prices. But in a country no longer on the gold standard, an adverse balance of payments is corrected by a fall in the rate of exchange, and there is no need, therefore, on this account, for imports to be restricted either by high discount rates or by tariffs, unless a fall in the exchange rate is considered undesirable.

Having satisfied themselves as to the unwisdom of an adverse balance of trade, exponents of Land Settlement proceed to explain the benefits likely to be derived from increased home production. Of such an argument, the following is a fairly typical example :—

"Let us suppose that we embark upon a policy to increase the farming output in Great Britain (of goods now supplied by Denmark) by £10 million in value. As has been shown, the production AND SALE in Great Britain of £10 million worth of farm produce would result also in the production and consumption in Great Britain of £10 million worth of British goods and services, so that the value of trade would increase by £20 million. This (on the basis that 66 per cent. would represent wages) would provide work for upwards of 100,000 men."

Such an argument is entirely fallacious. In the first place, the effect on internal trade of the *sale* of £10 million worth of bacon produced in this country and of £10 million worth bought from Denmark are identical, so that the value of internal trade is not affected by the substitution. It has apparently been assumed that Britain has paid £10 million to Denmark and received nothing in return. In the second place, a net increase of £10 million in the value of internal production resulting from the production of the bacon at home could only occur (*a*) if none of the foodstuffs used in production were imported, (*b*) if the bacon was produced as efficiently as and sold at a similar price to that imported, (*c*) if the export trade of Great Britain was entirely unaffected by this restriction of imports, and (*d*) if all the resources used in growing and manufacturing the bacon had been entirely unemployed.

Co-operation.— The growth of co-operation in this country compared with that in other parts of the Empire, in the United States, and on the Continent of Europe has been insignificant. The apparent inability of the British farmer to co-operate is generally explained as the result of an inherited individualism and a natural suspicion of his neighbours, sometimes as a survival from the extreme liberalism of the nineteenth century, and again as a result of the fact that, unlike those countries where co-operation has been successful, producers are not catering for an export market. While each of these reasons may affect the problem, there is no doubt that, in spite of the rather depressing history of co-operation in this country, the adoption of co-operative methods would prove beneficial to the farmer.

Some idea of the extent to which the smallholder could be assisted financially by the co-operative sale and purchase of his produce can be illustrated by comparing the difference in average prices paid and received for certain commodities, on 201 farms between 20-50 acres in size and 106 farms between 300-500 acres in size.[1] On these farms the smallholder paid approximately 10 per cent. more for his feeding stuffs and 20 per cent. more for his fertilisers than the large farmer, and although no measure was available, the same probably held for other requirements. Moreover, owing to the fact that the smallholder could only put small lots of produce on the market, and as a result of his inferior bargaining power, he received some 10 per cent. less for his barley and 2 per cent. less for his wheat than farmers in the larger size group. If, for example, the smallholder had been able in 1932 to sell his wheat and barley and to purchase his feeding stuffs and fertilisers on the same terms as the big farmer, his income would have been increased by £15 a year, and these are but a few of the directions in which saving could be effected.

While co-operation for the purchase of requisites has made a certain headway in this country, co-operation for sale has made little progress. One of the most interesting examples of the latter type of co-operation is found in the Littleton and Badsey Growers' Association in the Evesham District. This society has approximately 400 members, who, for the most part, occupy market gardens of 3-4 acres. Its turnover in 1933 was £36,000. As 50 per cent. of the society's trading, however, is done with non-members, it cannot be said to be a genuine co-operative undertaking. This

[1] *Economic Journal*, December 1934, "Some Aspects of Smallholdings in the Agricultural Structure," p. 657: A. W. Menzies-Kitchin.

society buys all types of market garden produce and sells all forms of market gardeners' requirements. The association is purely voluntary; its members are reasonably loyal, although it is not uncommon to find them selling their produce away from the society for a slightly higher price, even if during the preceding week they had obtained higher-than-market prices from the association. Many of the society's difficulties are inherent in the composition of its membership, which is mainly drawn from market gardeners occupying under 10 acres each. The majority come from surrounding villages, each with a different range of crops. As a result, the management has to deal with hundreds of small consignments, so that the total amount handled of each commodity, with the exception of asparagus, is not as great as that of any of the large and more specialised growers in Evesham and Pershore.[1] Consequently, profitable orders from large provincial buyers are difficult to obtain, and the saving in railway charges and in the bulking of consignments is not so great as if larger quantities of individual crops were handled. Probably one of the greatest services of the society is the fact that its presence as a trading organisation prevents the buyers exploiting the smallholders in the district.

In the marketing of highly perishable and non-standardised commodities such as fruit and vegetables, much depends on the initiative, character and social abilities of the manager of a co-operative association. To be successful he will require to be "a courageous, independent buyer, an imaginative seller, and be capable of shouldering responsibility."[1] With a foundation of adequate known supplies and capable administration, a co-operative society offers its members such money-saving and money-making services as "the bulking of produce to secure favourable transport rates, the classing, grading, preparation, packing and despatch of produce . . . the search for outlets, advertisement, and regulation of the flow of produce into markets in accordance with the estimated demand."[2]

In any programme of Land Settlement there would appear to be distinct advantages in establishing holdings on the colony principle in units sufficiently large to admit of efficient co-operation in the sale and purchase of commodities and requirements. Nor would it appear that, having done so, the possibilities of co-operation within the colony are exhausted. The supply of power for cultivation, the

[1] *Marketing of Fruit and Vegetables*, Abrams.

[2] *Co-operative Marketing*. Economic Series, No. 1, p. 12, Ministry of Agriculture and Fisheries.

grinding and mixing of rations, the rearing of poultry and pig stock, are all services, the provision of which on a co-operative basis is likely to increase the efficiency of the smallholder.

It is certain, however, that co-operation, particularly on the selling side, will not make rapid headway in this country until existing suspicion and distrust has been broken down by a more philosophical system of education. At the present moment co-operation in the sense of voluntary joint action of individuals with common interests, for a common purpose, is unlikely to succeed, and any system of combined selling adopted will require to be supported by an element of compulsion. In any system of group settlement, therefore, centralised purchase and sale, to be effective, must be inserted as a condition of tenure, and, in this case, the management must be responsible for finding remunerative markets.

CHAPTER IV

LAND SETTLEMENT LEGISLATION AT HOME AND ABROAD

1. England.

Land Settlement in the Nineteenth Century.—The series of Acts relating to the formation of smallholdings begins with the Allotments Acts of 1887 and of 1890, and the Small Holdings Act of 1892. This latter Act empowered the Councils of Counties and County Boroughs to create smallholdings where a need was proved to exist. Capital for the purchase of land and buildings was to be provided by the State at a low rate of interest, but the purchaser was required to pay at least one-fifth of the purchase price. He might leave upon the land a perpetual rent equal to interest on one-fourth of the remaining capital; but the other three-quarters had to be paid off in half-yearly instalments of principal and interest. Where the applicant was unable to purchase land, he could obtain a holding on lease, but such a holding could not exceed 15 acres in area or £15 in rental. The measure therefore aimed at the creation of small properties rather than of small tenancies.

Between 1892 and 1902 only 652 acres were acquired under the Act, while between 1902 and 1906 only 138 acres were purchased by two County Councils. The failure of the measure was largely due to its permissive character, and the Act was amended in 1908.

The Small Holdings and Allotments Act, 1908.—By the Act of 1908, County Councils and County Boroughs were placed under an obligation to meet the demand for smallholdings, a smallholding being defined as a holding of not more than 50 acres in extent or, if of more than 50 acres, having a rental of not more than £50. It appointed Small Holdings Commissioners in the various counties, to ascertain how far it was practicable or desirable to satisfy the demand. In the event of the Councils failing to carry out their obligations, the Ministry of Agriculture was empowered to prepare a scheme which, if the Council refused to adopt it, was to be administered by the Commissioners, the County Council or other local authority being held responsible for the expenditure incurred. Before a property could be purchased, the Council had to satisfy

the Ministry of Agriculture that the aggregate rental after subdivision would be sufficient to cover all interest and sinking-fund charges in respect of (*a*) the original purchase-money, and (*b*) any expenditure incurred in the erection or adaptation of buildings, together with an adequate allowance for the cost of management, repairs, insurance and other annual outgoings.

If, after the acquisition of the property, a loss was actually incurred, the Act empowered the Ministry to bear one-half of the loss. The actual sum paid on this account up to December 1918 was £3644. In addition, the Ministry was given powers to refund to the Council any expenses incurred in the acquisition of the land, viz. legal expenses and the cost of raising loans; the amount so paid up to December 1918 was £267,678. Later, as it was found that the Councils were incurring considerable expense in advertising the provisions of the Act, Treasury sanction was obtained to the refunding by the Ministry of one-half of the expenditure, the total amount paid up to December 1918 being £13,712. Finally, the Land Settlement (Facilities) Act, 1919, empowered the Ministry to repay the whole loss "reasonably and necessarily incurred" by Councils in exercising their powers under the Act of 1908 up to 31st March 1919, and the total cost incurred in this connection was £110,921.

Thus the total cost to the State of providing smallholdings under the 1908 Act was £395,955, an expenditure of about £30 per man settled. The total area of land acquired up to December 1918 was 183,877 acres, of which 49,206 were hired and the remainder purchased for cash. This area provided 12,792 holdings, 70 per cent. of which were bare-land holdings.

Land Settlement (Facilities) Act, 1919.—Up to 1918, building costs were reasonable and loans could be raised at 3½ per cent. After the war, high building costs and abnormal interest rates made it impossible for Councils to provide holdings without incurring an annual loss. The Land Settlement (Facilities) Act, 1919, provided, therefore, that the Ministry should repay to each Council the whole loss "reasonably and necessarily" incurred in providing smallholdings until the 31st March 1926. As the system under which the Ministry made good these losses required detailed control of the Councils' administration of their estate, the arrangement was purposely limited to a period of seven years, after which time conditions were expected to be sufficiently stable to admit of the Councils' assuming complete responsibility.

From the 18th December 1918, when the land settlement scheme for the ex-service men came into operation, till the 31st April 1926, 254,145 acres were acquired by County Councils and Councils of County Boroughs for smallholdings and 16,740 holdings were created, of which 9073 or about 55 per cent. were bare land. The total number of men settled in the period was 24,319, of whom 18,915 were still in occupation of their holdings at 31st March 1926. Of the 5404 men who left their holdings many moved into bigger farms. While no figures for actual failures exist, it is probable the number did not exceed 15 per cent. of the total number settled.

Under the Act a definite Land Settlement Fund of £20,000,000 was created, from which advances were made to Councils at the current rate of interest. The total capital expenditure was £15,261,000, of which £9,146,467 was in respect of purchase money, and £5,690,548 in respect of expenditure on equipment. Of this total 92 per cent. was advanced out of the Land Settlement Fund. In addition, up to the 31st March 1926, the Ministry furnished £5,211,299 under the terms of the Act, in respect of losses incurred in providing smallholdings. It is now paying approximately £800,000 annually. While this sum will decrease as short-term loans fall in, the last payment will probably not be made before the year 2000.

Thus the area acquired since 1st January 1908 and still retained by the Councils on March 1926 was 438,022 acres. The total number of holdings provided was 29,532, while the gross rental of the estate on the 31st March 1926 was £948,000. The gross capital in land and equipment was £20,750,000, about 75 per cent. of which was attributable to post-war land settlement schemes.

Small Holdings and Allotments Act, 1926.—Briefly, the Small Holdings and Allotments Act, 1926, imposed on the Councils of Counties and County Boroughs the duty of meeting the demand for smallholdings, if possible without loss, and also empowered Councils, with the approval of the Ministry of Agriculture, to provide holdings at a loss, when the Ministry contributed up to a maximum of 75 per cent. of the estimated annual loss.

For various reasons, mainly because of the liability for 25 per cent. of any annual deficiency, few holdings were created under the 1926 Act, the total area of new land acquired during the six years 1927-32 being 30,814 acres, a yearly average of 5136 acres. This area has provided 1274 holdings.

Cost of Establishment.—Under the Small Holdings and Allotments Act, 1926, the average capital cost of new holdings provided by the Councils has been £1285.[1] The annual loss in the first normal year has been £25, 17s. 1d. per holding, of which the Ministry's contribution has been £19, 7s. 2d.; as short-dated loans for equipment fall in the Ministry's contribution is lessened. In this connection it must be remembered that smallholdings provided by the Councils range from bare-land holdings of just over an acre of land to 50-acre holdings equipped with house and buildings. In a milk-producing county, the capital cost of a dairy holding might amount to £2400, made up as follows :—

Land : 40 acres at £30 per acre =	£1200
House : brick and tile . . =	500
Farm buildings =	700
	£2400

Therefore the greater the proportion of fully equipped holdings compared with bare-land holdings, the greater the capital cost and, generally speaking, the greater the annual deficiency, as the rent received falls short of loan charges on the initial expenditure.

Return on Expenditure.—The examination of the large majority of non-self-supporting schemes formed under the Act of 1926 shows that the estimated net rents have averaged 3 per cent. on the capital expenditure. Loans have been obtained throughout the period at varying rates of interest; of a total expenditure of £1,325,000 in respect of land purchased from 1926-31 approximately

£257,000	was borrowed at	5¼	per cent.
£584,000	,, ,,	5	,,
£20,000	,, ,,	4⅞	,,
£378,000	,, ,,	4¾	,,
£86,000	,, ,,	4½	,,

The rents therefore have only paid about three-fifths of the interest charges on the loans raised.

In selecting persons to be settled on the land, the 1919 Act required Councils to give preference to ex-service men, and further empowered Councils to make guaranteed loans to their smallholding tenants. These loans were made by the Joint Stock Banks, under a guarantee from the Councils of a maximum of £1 for £1 of the tenant's capital. The loans were made only for purchasing live-

[1] This figure has been obtained by dividing gross outlay by the number of holdings provided. A proportion of these holdings are in part-time occupation and some are not fully equipped with house and buildings.

stock, fruit trees, seeds, fertilisers and implements. In all 1605 loans amounting to £175,838 were guaranteed by Councils to their tenants. The number of tenants holding such loans was less than 7 per cent. of the total number of men settled since the war. The total loss in connection with these loans was about £75,000.

Area of Councils' Smallholding Estates.—The following table indicates the total area of land held by the Councils in England and Wales as smallholdings at the 31st December 1933. For County data see Appendix B.

TABLE I

AREA AND NUMBER OF SMALLHOLDINGS HELD BY THE COUNCILS OF COUNTIES AND COUNTY BOROUGHS, 1933 [1]

	Area of Land				No. of Smallholdings	Land sold for Smallholdings	
	Purchased for Cash	Purchased for Annuity or Rent Charge	Leased	Total		Area	No. of Holdings
	Acres	Acres	Acres	Acres		Acres	
Land acquired before 15.12.26	349,340	6,402	63,430	419,172	28,141	6,366	776
Land acquired after 15.12.26	33,574	..	1,737	35,311	1,451	235	72
Total .	382,914	6,402	65,167	454,483	29,592	6,601	848

Demand.—The following table shows the position in respect of the unsatisfied demands for smallholdings at the end of each of the seven years 1927-33. See also Appendix B, Section 2.

TABLE II

NUMBER OF UNSATISFIED APPLICANTS FOR SMALLHOLDINGS, 1927-33 [2]

	Approved Applicants awaiting Holding	Applicants awaiting interview or standing over	Total
Position at			
Dec. 31, 1927	2,522	3,299	5,821
,, 1928	2,320	3,225	5,545
,, 1929	2,152	3,217	5,369
,, 1930	1,820	3,647	5,487
,, 1931	2,217	3,394	5,611
,, 1932	2,059	3,824	5,883
,, 1933	1,864	3,235	5,094

[1] *Land Division Report*, 1933, p. 8, Ministry of Agriculture and Fisheries.
[2] Compiled from Land Division Reports.

During these years there has been a fairly constant demand for smallholdings, although it is interesting to note that a fall of 800 occurred in the number of unsatisfied applicants between 1932 and 1933, due to a falling off in demand. During the period 7963 applicants were settled, 7649 being placed in smallholdings and 278 in cottage holdings.

Of the total number of applicants during any year, approximately 13·5 per cent. were settled in holdings, 25·4 per cent. were approved and were awaiting holdings at the end of the year, 4·5 per cent. were rejected as unsuitable, 16·1 per cent. withdrew their applications, and 40·5 per cent. were awaiting an interview or standing over at the end of the year.

Cost of Land.—The cost of land is influenced by a variety of factors. In Appendix E is given the average price at which land suitable for smallholdings of various types can be bought in certain districts. These figures have been supplied by the Commissioners of the Land Division of the Ministry of Agriculture.

Cost of Houses.—The dwellings erected on County Council holdings vary considerably in detail, but fall into two main classes :—

A. Those for holdings up to about 5 acres, which generally comprise a living-room, scullery and three bedrooms. As a variation of this, two rooms about the same size replace a large living-room and a small scullery, in which case the cooking range and sink are in one of the rooms, but the washing-copper is in a separate wash-house.

B. Houses serving any size of holding up to 50 acres, with three bedrooms, parlour, living-room, scullery and dairy or the equivalent in bulk and convenience.

The following costs of building houses of these two types in three districts of England have been compiled from records by the Land Division of the Ministry of Agriculture since the beginning of 1934 :—

North and North-west Districts.

55 "A" houses ; average £337 : add site works ; average £68
37 "B" „ „ £502 : „ „ „ „ £80

East and South-east Districts.

69 "A" houses ; average £422 : add site works ; average £58½
26 "B" „ „ £519½ : „ „ „ „ £73½

South-west and Hants Districts.

10 "A" houses: average £467½: add site works; average £89
9 "B" " " £550: " " " " £54½

A number of cottages of the "A" type have been built in Lancashire without contribution from the Ministry. Cost records of these are not available, but they probably averaged less than £400 each. It should be noted that building costs would be reduced slightly if a large number of houses were built at a time. On the other hand, there are prospects of an all-round increase in wages of 1d. per hour in the building trade.

The cost of site works may be estimated as follows:—

Drain, manholes and cesspool . . .	£25
Roads and paths	20
Fencing and gates	18
Water; well or main (average) . .	17
	£80

The experience of the County Councils has indicated that in general class "A" cottages, with site works and supplied with a shed or small building, cannot be built for less than £500.

Settlement under the County Councils.—The provision of smallholdings by County Councils has been carried out efficiently, and the rate of settlement would appear to have been as rapid as economic conditions have justified. Applicants for holdings are carefully selected and failures, apart from the immediate post-war years, have been relatively few. Broadly speaking, the sons of smallholders and of good agricultural labourers have been the most successful tenants, although lack of agricultural knowledge does not appear to be a handicap in poultry or pig keeping, particularly if the prospective poultry keeper has been trained as a carpenter, engineer or in some allied trade.

The important part played by the smallholder's wife in the success of the holding was repeatedly emphasised by the County Land Agents, and the following note supplied by Mr Orton of Glamorganshire is of interest:—

"The directions in which the smallholder's wife plays an important part in the success or otherwise of the holding are numerous and varied according to circumstances, but may be briefly summarised as follows:

"The feeding of poultry, small livestock, etc., cleansing of milk utensils, sale of produce, either door to door or in markets, are duties

which may in general be undertaken by a holder's wife, giving him scope to concentrate more upon and put his labour into the more arduous tasks in connection with and necessary for the good management of the holding. A wife may very often supply the incentive or push required by some men before they can become a success.

"In a good many cases, the holder may be married to a farmer's daughter who is accustomed to and experienced in farm work and management, and in addition to consulting with and advising her husband in connection with the working of the holding, is able to render material assistance by milking, curing, making dairy produce, etc. It can be stated from experience that in the case of holders who have been farm labourers since boyhood, and received little education, a wife, although not possessing a knowledge of farm work, can often assist greatly by attending to all correspondence, banking, and matters relating to rent, rates, taxes and farm accounts."

II. Germany.

Settlement under Frederick the Great.—Land Settlement in Germany was begun early in the eighteenth century by Frederick the Great, who settled peasant holdings on the waste lands along the tributaries of the Oder. The main object of settlement was to increase the rural population which had been depleted as a result of the wars in the 16th and 17th centuries.

The colonies founded by Frederick II numbered 300,000 peasants, and it was stated that at the time of his death these represented one-fifth of the inhabitants of Prussia.[1] The settlers were either full-time occupiers of 5 to 20 hectares, or occupied part-time holdings of 1 to 4 hectares. The farms were granted on a perpetual lease on payment of a small ground rent, and were secured by special provisions against mortgaging or sale.

After the death of Frederick II settlement ceased, and between 1816 and 1865 a million hectares of land belonging to the peasants were absorbed by the large estates.

Settlement under Bismarck.—A new phase in Land Settlement was introduced by Bismarck in the laws of 1886, 1890 and 1891. The policy was inspired by the national danger that lay in the great exodus of labourers from the provinces on the Polish frontier. The object of these laws was to replace the practically feudal

[1] "Home Colonisation in Germany," F. J. Rohr, *International Review of Agricultural Economics*, 1925, p. 31.

conditions which then existed on the large estates by a system of peasant holdings "better suited to the ideals of a free and progressive people." The law of 1886 indicated the main lines for the organisation of the settlement, and the Government Commission for Polish Colonisation became the forerunner of the present public utility land settlement societies. It was endowed with an initial capital of 100 million marks, later increased to 700 million marks. Up to 1914 the commission had established 22,128 settlers on an area of 320,755 hectares in the two eastern provinces.[1] After the war the majority of the holdings passed into the possession of the Poles.

In 1890-91 Land Settlement was extended to other provinces. The law of 1886 dealt principally with the provision of houses for farm labourers and the reclamation of waste land, that of 1891 made possible the formation of small and medium sized Rentengüter, as intermediate links between the large estates and the landless labourer. The provincial organisation of this settlement was put in charge of the General Commission, an old organisation formed in 1807 to clear up the feudal system.

Under the settlement laws of 1886 and 1890-91 land could be granted in three ways:—

(1) on lease;
(2) as freehold against cash payment; and
(3) in the form of a Rentengut, *i.e.* freehold against payment of a fixed rent charge.

The last method came to be adopted to the exclusion of the others. Special clauses secured that the holding was to be worked by the settler; it was open to State inspection, and to prevent uneconomic division a law of 1896 established that the holding should pass to the principal heir.

The Rentenbanks were responsible for the payment of the rents agreed between the parties. They capitalised the rent charges by means of bond issues, with the result that owners of estates in want of capital had a strong inducement to offer land for holdings.

Nevertheless, of the million hectares of land absorbed by the great estates, less than 600,000 hectares divided in 44,000 holdings had been recovered in 1914, in spite of the whole weight of legislative, financial and technical ability applied to the problem.

The Reich Land Settlement Act, 1919.—The post-war legislation on Land Settlement is based on an Act of 1919 which outlines the

[1] *Ibid.*, p. 36.

principles for the acquisition of land and the organisation of settlement. The purpose of the Act was to form new agricultural holdings and also to enlarge part-time holdings, so that their occupiers should become self-supporting. The bodies responsible for Land Settlement are the public settlement companies set up by the different states and modelled on the great provincial land societies in Prussia. These societies are limited companies, the bulk of whose capital is held by the State, the provincial Government and other public bodies. Dividends are limited to 5 per cent., and the State share, together with any profit, is reinvested in the company.

In addition to purchase in the open market, the Federal Settlement Act provides four ways in which land can be acquired :-

(1) State land is put at the disposal of the settlement companies at a price based on its net annual yield after the expiry of the lease, unless it is required by the State for some other purpose.

(2) Marshy or waste land is appropriated at a price based on net annual yields, unless the owner undertakes within a specific time to put such an area into cultivation.

(3) Public utility companies are given the right of pre-emption on farms of 25 hectares or over, or on parts of such farms situated in the district of the undertaking, and

(4) Estates of over 100 hectares are expropriated against compensation in specified areas.

In certain districts, where, according to the agricultural census of 1907, estates of 100 hectares and over occupy more than 10 per cent. of the cultivated land, the owners of these estates must form unions (Landlieferungsverbände) for the delivery of the land. These unions are required to transfer to the Land Settlement Company land withdrawn from the large estates suitable for smallholdings. For this purpose the settlement company's right of pre-emption is transferred to the union which also has the right, if sufficient land cannot be acquired by other means, to expropriate part of the large estates against reasonable compensation. A union has fulfilled its obligation to supply land when a third of the area cultivated in 1907 has been handed over to the settlement companies or when the cultivated area of the estates has been reduced to 10 per cent. of the total area in the district.

There are also special measures for the protection of agricultural workers affected by settlement schemes and for the settlement of such workers.

The right of settlers to sell their holding has been restricted in

order to prevent speculation in farms, or their transfer to unsuitable persons. If the settler sells all or part of his property, or does not live or work upon it permanently, the Settlement Act empowers the company to repurchase it on conditions indicated in the settlement agreement. The property cannot be divided. The Act enables land to be leased to agricultural workers, and finally exempts the settlement companies from rates and taxes.

Finance of Land Settlement.—The methods applied in Germany for financing settlement schemes are essentially the same as those in Prussia before the war. The purchase of land for settlement and the work involved in its redistribution demands the expenditure of considerable sums which cannot be recovered until the new holdings are sold. For this purpose the State provides cheap short-term credit secured by mortgage on the estate to be broken up. As the settler is usually unable to pay cash for his holding, he obtains it in the form of a Rentengut, *i.e.* against payment of a fixed annuity. Long-term credit is provided by the Prussian Landrentenbank, which was formed in 1927, to carry on the work of the Prussian Rentenbanks.

Under the Act of July 1931 the Landrentenbanks were empowered to issue annuity bonds, to take up loans and to participate in undertakings for raising settlement loans. Since the annuity bonds are not only secured by a first charge on the settlers' holdings, but are also guaranteed by the State, the loans raised may reach 90 per cent. of the mortgage value. The loans are redeemable in 69⅔ years by means of a yearly payment of 5 per cent. for interest and amortisation.

In order to lower the cost of building, the Prussian and Federal Governments grant to each holding cheap loans of 4000-6000 R.M. carrying interest at 1 per cent. and redeemable from the sixth year onwards at the rate of one per cent. At the same time the State gives a subsidy of 50 per cent. towards the cost of building churches, schools, etc.

To assist the settlement of agricultural workers who have lost their employment as the result of the subdivision of large farms, the Government can grant cheap "installation loans" to assist them in the purchase of stock, seed and manure. These loans must not exceed 500 R.M. per hectare of cultivated area, or a total of 4000 R.M. per holding.

Results of Settlement.—The area of land acquired for settlement in Germany since 1919 is as follows :—

TABLE III

AREA ACQUIRED FOR SETTLEMENT IN GERMANY, 1919-30 [1]

Year	Hectares	Year	Hectares
1919-21	115,737	1926	41,678
1922	57,511	1927	85,984
1923	56,102	1928	78,468
1924	33,183	1929	117,115
1925	30,956	1930	127,112
1919-30			746,846

Thus from 1919-30 a total of 746,846 hectares of land was acquired for settlement, and of this no less than 632,903 hectares were in Prussia. The number and area of new holdings are as follows :—

TABLE IV

NUMBER AND AREA OF NEW HOLDINGS IN GERMANY, 1919-31 [1]

Year	Number	Area (Hectares)
1926	1,906	25,490
1927	3,372	36,704
1928	4,253	50,616
1929	5,545	61,213
1930	7,441	79,833
1931	8,889	95,933
1919-31	48,218	496,493

The distribution of the new farms in the various provinces is shown in the following table :—

TABLE V

DISTRIBUTION OF NEW HOLDINGS BY PROVINCE IN GERMANY, 1919-31 [2]

Territory	1931		1932		1919-31	
	Number	Total Area (Hectares)	Number	Total Area (Hectares)	Number	Total Area (Hectares)
Germany	8,889	95,933	7,441	79,833	48,218	496,493
Prussia	7,757	80,898	6,580	68,812	40,934	434,121
Province of Pomerania	1,683	20,184	1,116	15,774	5,801	93,109
Province of Saxony	223	2,424	147	907	2,291	10,731
Free State of Saxony	2	46	8	160	50	1,038

[1] "The Rural Exodus in Germany," Dr H. Böker and F. W. von Bülow, Inter. Lab. Office, pp. 96, 100.

[2] *Ibid.*, p. 101.

The distribution of the new holdings by size has altered substantially in recent years. The number of the smallest holdings settled annually has steadily diminished and there has been, as is shown below, a marked tendency to establish more independent peasant farms.

TABLE VI

PERCENTAGE DISTRIBUTION OF NEW HOLDINGS BY SIZE, 1919-31 [1]

Year	Under 2 Hectares	2 Hectares and under 10	10 Hectares and over
1919-26 .	49·1	17·0	33·9
1927 . .	40·4	18·8	40·8
1928 . .	31·7	20·4	47·9
1929 . .	28·7	22·4	48·9
1930 . .	22·1	29·1	48·8
1931 . .	15·0	32·6	52·4
Average— 1919-31 .	34·1	22·8	43·1

It is stated [2] that under present conditions of cultivation and marketing with land of average quality, a holding of 10 to 20 hectares is of suitable size for a peasant family working with a team of horses, and holdings of this size form the greater part of those settled. The holdings are generally established in a colony with the original farm buildings as a centre. The average cost of a 10 to 15 hectare holding complete with land, house, building, water and electricity is approximately 22,000 R.M.

Conclusion.—Since the time of Frederick the Great, Land Settlement in Germany has been undertaken on military and social, rather than on economic grounds. Alarm at the exodus from the already sparsely populated districts on the Polish frontier to the industrial west, in conjunction with a rapidly growing population in Poland, has led to an attempt to increase population in these areas. In recent years the movement has been also stimulated by the memory of the war blockade, and of the inflation period of 1923-24 when the value of a small plot of land was vividly emphasised, and by the advantage of being as far as possible self-supporting in food in time of war.

For these reasons Germany, believing Land Settlement to be an integral part of national defence, has decided to settle a peasant population at a cost. As it would be impossible to enforce such a

[1] *Ibid.*, p. 102. [2] *Ibid.*, p. 106.

policy under free economic conditions, the home market has been protected by tariffs and internal prices increased to a level which enables the peasant to obtain a livelihood. Therefore while the German settlement schemes are claimed to be self-supporting in that they pay an economic rent on the cost of establishment, they are not self-supporting in any real sense but are paid for indirectly in high food prices.

The extent of the payment can be measured from the following table, where (*a*) the world price, and (*b*) the price in Germany, of certain commodities have been compared.

TABLE VII

PRICES OF AGRICULTURAL COMMODITIES IN GERMANY AND ON WORLD MARKETS, DECEMBER 1934 [1]

	Price in Reichsmark per 100 Kg.	
	Germany	World Market
Wheat	20·55	10·41
Rye	16·55	6·58
Oats	14·88	5·29
Fodder Barley	15·45	8·17
Maize (Plata)	15·50	5·84
Cattle	82·00	23·87
Pigs	96·00	28·37
Butter	260·00	121·77
Lard	181·00	66·86
Eggs (per 100)	11·50	4·97
Sugar	44·0	9·17

An appreciation of Land Settlement as a national policy cannot be separated from a consideration of the particular economic and social framework within which it operates. Comparing conditions in Germany and in Britain, certain essential differences render it unlikely that a similar policy would succeed in this country.

In the first place it must be borne in mind that Germany has no colonial empire from which she can draw raw materials or foodstuffs, and the widespread growth of economic nationalism has made her position more difficult. Secondly, her overseas trade, as was shown during 1914-18, is extremely vulnerable in war-time. In both these respects she has a stronger argument than this country for a policy of economic self-sufficiency.

Since the war, in order to find means of paying reparations and interest on foreign loans, she has been compelled to maintain a favourable balance of trade. As her exports were restricted by

[1] *Agricultural Protectionism*. League of Nations Publication, C. 178, M. 97, 1935. II. B., p. 22.

foreign tariffs, she has limited her imports, the bulk of which were raw materials and foodstuffs. The deficiency so created has had to be made good from her own soil, and this production has been assisted by high internal food prices. By contrast, the position of Great Britain as a creditor nation is entirely different, as she cannot receive interest on her foreign loans unless she maintains an adverse trade balance. As Britain herself is an industrial nation, her imports must take the form of agricultural products. Further, it is extremely doubtful whether a policy of high food prices would be tolerated in this country with its long tradition of cheap food. In Germany it has been made possible by the fact that tariffs on food have been part of a national policy since the 'eighties of last century; and further, by the political weakness and disunity of the trade unions.

Moreover, under the National Socialist Government, Land Settlement in Germany tends to be an article of faith rather than a policy capable of economic justification. It is an outward expression of the philosophy that a nation can only remain powerful by virtue of a virile peasant population. It is not regarded as a cure for unemployment, except in so far as it may relieve pressure on the labour market by stemming the drift to the towns, although it is linked up with various plans for the decentralisation of industry and the creation of certain manufacturing industries in the Eastern Provinces.

III. Denmark.

Size of Holding.—In 1929 the total number of farms in Denmark was 205,637, and the aggregate agricultural area amounted to 31·2 million hectares, or approximately 17 hectares per farm. This comparatively large average size is due to the fact that in Denmark the "Bondebrug," *i.e.* farms between 10 to 60 hectares, have always been numerous and at present occupy two-thirds of the total agricultural area. One-sixth of the area is occupied by large farms and the remaining one-sixth by smallholdings.

TABLE 1

Number of Farms in Denmark by Size, 1919 and 1929[1]

Hectares	0·55-3·3	3·3-10	10-15	15-30	30-60	60-120	120-240	240 & over	Total
1919 .	43,891	65,254	25,494	43,364	22,552	4,039	916	419	205,929
1929 .	38,525	71,826	26,809	43,566	20,417	3,423	765	306	205,637

[1] "Danmarks Statistik Aarbog, 1934," p. 35.

When the first accurate survey of agricultural land was made in 1688, about 90 per cent. of the total agricultural area was occupied by medium-sized farms and nearly 10 per cent. by large farms, the number of smallholdings being negligible.

At the end of the eighteenth and beginning of the nineteenth century there was a scarcity of labour on the large farms, to correct which the Government established a large number of part-time holdings of 1 to 3 hectares. By 1800, 57,000 of these holdings had been established and the Government withdrew their support, but the movement continued, and in 1900 the number had increased to 200,000. The majority of these holdings, however, were in part-time occupation. The number between 0·55-10 hectares rose from 55,000 in 1850 to 95,000 in 1900—an increase of 40,000 smallholdings in fifty years, or an average increase of 800 farms a year.

Pre-War Land Settlement.—The Danish smallholding movement proper began at the end of the nineteenth century in an attempt to stem the flow of labour to the towns and the loss by emigration. It was felt that the agricultural worker would be more willing to stay on the land if he could obtain a smallholding, and in 1894 the Government appointed a Committee to investigate and report on the question. In 1896-97 a bill, entitled the Law on Allotments for Agricultural Workers, was presented to Parliament, when the Minister of Agriculture declared that its main purpose was to improve the social position of the agricultural labourer. There was at this time an evident reluctance on the part of Parliament to make the holdings sufficiently large to support a family, and a maximum limit of 4½ hectares was imposed.

Under the Act the applicant was required to pay one-tenth of the total value of the established holding, the Government supplying nine-tenths as a loan. Interest on the loan was at the low rate of 3 per cent., and no instalments on the loan were to be repaid during the first five years; thereafter the loan was to be repaid by 1 per cent. annually. The maximum loan was fixed at 4000 Kroner per holding, and the State granted an amount of 2 million Kroner annually for loans during the first five years. The Act was to be revised every fifth year.

By the first revision in 1904 the only amendment was the increase of the loan value to 5000 Kroner and of the annual State grant to 3 million Kroner. But in 1909, as a result of changes in public policy, the title of the Act was altered to "Law on the Establishment of Smallholdings." There was now no shortage of labour in

rural districts, and the development of the co-operative movement had so improved conditions for smallholdings that Parliament was disposed to settle independent holdings. The limit of the loan value was therefore increased to 6500 Kroner, and by exceptions to 8000 Kroner, while owners of smallholdings under previous Acts were empowered to apply for supplementary loans.

By revisions of the Act in 1914, 1917 and 1921 the loan value was continually increased up to 22,000 Kroner in 1921, while the yearly State grant was increased, first to 5 million Kroner, and in 1921 to 12 million Kroner a year. The 1921 amendment stated that for independent holdings on good medium soil an average size of 7 hectares was to be preferred.

Post-War Land Settlement.—Following the rise in price of land and buildings after the war, the smallholding movement was severely checked, the number of holdings established falling from an annual average of 600-700 before 1914 to 150 in 1920. To meet this situation, a series of Acts were passed in 1919 with a view to rendering the holder less sensitive to fluctuation in the value of land, and to make it possible for the agricultural labourer with a little capital to obtain a holding even under abnormal price conditions.

An Act, under the title "Law on the Terms for the Sale of Property in Public Possession," made possible a system of State leasehold by which the State placed land at the disposal of the smallholders against an annual payment based upon periodical valuation by the property valuation committee at the current rate of interest. In order to place land at the disposal of the State, the Government proposed two enabling Acts :—

(i) An Act dealing with the sale of Church land, which provided that the glebe lands of the priesthood should gradually be sold for smallholdings ; and

(ii) An Act dealing with the transference of feudal lands, family estates and feoffment in trust to executed property.

The second Act gave the possessor of an entailed estate "the right to break the entail provided he paid to the State one-fifth of its value (one-fourth if the estate was one which in certain circumstances would ultimately have reverted to the Crown), and provided he put at the disposal of the State one-third of the land in return for a proper indemnity."[1] At the same time the life

[1] "Report of the Agricultural Tribunal," 1925. Memo. by Sir William Ashley on Denmark, p. 261.

tenants who did not break an entail were subjected to an additional tax. The sum thus paid to the State formed the State Land Fund and at present is a little more than 100 million Kroner, and is to be used for the purchase of new land for smallholdings when the transferred land, together with the glebe land, has been subdivided. The total area made available to the State under these Acts was about 32,000 hectares.

Smallholders under the 1919 Act obtained land without paying purchase money, and State loans for the erection of buildings were offered on more favourable conditions than under the Act of 1896. Therefore the new Act stipulated that smallholders under the former Act should pay interest only on that part of the original loan corresponding to the cost of buildings in 1914. The remainder of the loan was to be free of interest, but had to be repaid by annual instalments of 1 per cent. after repayment of the interest bearing part of the loan had been completed.

Certain amendments were passed in March 1924 which evened up the economic conditions of the two forms of smallholdings as far as the loan on buildings was concerned, but it still left the occupiers under the 1919 Act with certain advantages. Occupiers under the old Act were required to pay interest on loans representing the market value of the land, while the State leaseholders paid interest on a value determined on a property tax basis which was 25 per cent. and more below market price.

Nevertheless, since 1919, possibly due to their more independent position in case of sale, considerably more freeholdings than leaseholdings have been established. In the case of the leaseholdings a right of pre-emption is reserved for the State if the property is to be sold either because the occupier is unable to pay the annual interest and instalments of the loan or for certain other reasons.

The number of smallholdings acquired under the two Acts between 1900 and 1930 inclusive was 19,133, viz. 14,654 under the old Act of 1899 and 4479 under the Act of 1919. The total loans and subsidies from the State for the acquisition of smallholdings amounted to 208·5 million Kroner; in addition small amounts were placed at the disposal of private settlement associations.

Some Aspects of Danish Agriculture.—The success of the Danish farmer has been in large part due to the fact that his agricultural system is based on the most stable unit of agricultural production—the mixed arable holding. Broadly speaking, the aim of the Danish farmer is to grow as much food as possible on his land and feed it to

his livestock. Large quantities of fodder crops are grown, and very little grain is sold off the medium size or small farms, while the by-products of the butter and cheese industries are largely used in pig and poultry feeding. The organisations of two typical Danish holdings are described below.

TABLE I

Area	No. 1 (10 Hectares)	No. 2 (5·7 Hectares)
(Hectares.)		
Crops.		
Wheat		·50
Barley	1·50	1·00
Oats	1·00	·50
Rye	1·00	..
Sugar Beet for Stock	1·00	·50
Kohl-rabi	1·00	·50
Temp. Grass	1·00	1·00
Perm. Grass	2·00	1·00
Orchard and Garden	·75	·30
Roads and Building	·75	·40
Total Area	10·00	5·70
	Number	Number
Stock.		
Horses	2	2
Cows	8	7
Other Cattle	8	4
Sows	2	1
Poultry	100	100

An idea of the increased production of livestock during the past fifty years will be gathered from the following table:—

TABLE II

NUMBER OF LIVESTOCK IN DENMARK, 1881-1934 [1]

(In Thousands)

Year	Horses	Cattle		Pigs	Sheep	Fowls
		Cows	Total			
1881	375	983	1,638	567	1,612	..
1903	519	1,177	2,056	1,539	922	11,836
1914	605	1,416	2,717	2,715	533	15,495
1918	578	1,106	2,303	669	495	..
1924	548	1,369	2,667	2,868	302	20,284
1929	521	1,583	3,036	3,618	193	22,075
1933	520	1,800	3,185	4,407	178	26,625

[1] "The Development of Danish Agricultural Production," S. Sorensen. *Proceedings of the Agricultural Economics Society*, December 1934.

This increase in livestock has led to the increased production of fodder crops and of the 7·9 million acres [1] of agricultural land in Denmark, 85 per cent. is arable and under intensive cultivation. During the last fifty years the percentage of arable area devoted to cereals has remained constant at about 45 per cent., but the area in root crops, including potatoes, has risen from 2·5 per cent. to over 18 per cent. of the arable area, while bare fallow has fallen from 11 per cent. to less than 2 per cent. There has also been a slight decrease in the percentage of arable area devoted to rotation grass and clover. The increase in the total production of farm crops is indicated in Table III, where each crop has been converted to a common food unit of one ton of barley.

TABLE III

TOTAL ANNUAL PRODUCTION OF DANISH FARM CROPS, 1879-1933 [1]

1879-83	3·05	million	crop	units
1889-93	3·46	,,	,,	,,
1899-1903	4·03	,,	,,	,,
1909-13	5·39	,,	,,	,,
1919-23	7·26	,,	,,	,,
1924-28	9·03	,,	,,	,,
1929-33	10·52	,,	,,	,,

Concomitant with this increase in the number of livestock and in crop production, an increase has occurred in the productivity of the livestock themselves. This has been obtained by the selection of suitable breeds of stock, and by the selection within the breed of the most efficient members. For example, while between 1881 and 1933 the number of milk cows has only doubled, the production of butter fat has increased more than fourfold. Equally striking results have been obtained in pigs and poultry in increasing litter size and egg yield.

The Danish farmer has further reduced his costs by the co-operative purchase and sale of commodities. An idea of the widespread nature of the movement may be gathered from the fact that in 1928

(*a*) 90 per cent. of Danish farmers were members of a co-operative creamery,

(*b*) 40 per cent. of artificial fertilisers were purchased through the Danish Co-operative Fertiliser Supply Association,

[1] *Ibid.* [2] *Ibid.*

(c) 83 per cent. of all pigs slaughtered were killed in co-operative bacon factories,

(d) 25 per cent. of the total egg export was handled by Co-operative Associations,

(e) 40 per cent. of the total import of feeding stuffs were purchased co-operatively.

Unlike Germany, where a high tariff policy has been required to maintain the rural population, the Danish farmer has been self-supporting until the recent crisis. As prices have fallen he has tried to maintain his standard of living by increasing his gross output and reducing his costs of production. He has increased his efficiency by the use of scientific methods of feeding and management, by the selection of suitable breeds of stock and by the application of pig-recording, milk-recording and trap-nesting, to facilitate selection within the breed, by the co-operative purchase of requirements and sale of produce, by the use of selected seeds, by manuring and intensive cultivation and by the utilisation of by-products.

The extent to which he has increased his production is shown by the following table :—

TABLE IV [1]

EXPORT FROM DENMARK OF HOME-PRODUCED BUTTER, BACON AND HAMS, AND EGGS, 1881-1933

Year	Butter	Bacon and Hams	Eggs
	Tons	Tons	1000 gt. hunds.
1881-85 (yearly average)	15,630	7,940	478
1886-90 ,,	29,730	23,980	913
1891-95 ,,	48,070	41,270	1,243
1896-1900 ,,	57,396	64,860	2,222
1901-5 ,,	76,044	76,390	3,531
1906-10 ,,	90,180	95,400	3,357
1911-15 ,,	99,420	128,840	3,596
1916-20 ,,	56,700	46,500	3,567
1921-25 ,,	109,100	151,800	6,367
1926-30 ,,	149,700	254,800	6,850
1930-33 ,,	162,288	346-599	8,357
1930	168,989	306,388	7,185
1931	171,615	376,122	8,119
1932	157,798	389,768	9,206
1933	150,714	294,117	8,919

The importance of the British market to Denmark can be gathered from the fact that in 1930, of the total exports of butter

[1] *Ibid.*

and eggs, 67 per cent. and 94 per cent. respectively were sent to Britain and practically all the exports of bacon and hams. At the same time, the fact that the Danish producer has provided a regular and cheap supply of butter, bacon and eggs to the industrial worker in this country must not be forgotten.

In spite of the hard work and enterprise of the Danish farmer, however, his agriculture is passing through difficult times. The heavy decline in the price of exported produce, in conjunction with the British protectionist policy, offers a grave threat to Danish agriculture—a threat which would appear inevitably to lead to a general reduction in the standard of living, probably accompanied by a cessation of the smallholding movement and a return to less intensive methods of production. During the past few years the annual rate of increase of smallholdings has fallen by 50 per cent., and there is a tendency for the average size of holding settled to rise, as it becomes increasingly difficult to obtain a livelihood from a small area. With limited exports, Denmark will be forced into a policy of industrial self-sufficiency for which, through lack of both coal and iron, she is entirely unsuited. In so doing she will decrease her imports of machinery and other industrial goods. In the long run, therefore, it would appear that, in pursuit of a protectionist agricultural policy in this country, both the British consumer and the export of industrial goods will suffer through the loss of a customer with whom we have traded during the present century to our mutual advantage.

IV. Holland.

As a result of the high yielding capacity of the alluvial soil, which is extremely suitable for intensive forms of cultivation, the average size of holding in Holland is small. Since 1921, however, the number of holdings under 5 hectares has declined—a feature shared by Germany, Denmark and Britain.

TABLE I

Number of Holdings in Various Size Groups, 1921-30 [1]

Hectares	1-5	5-10	10-20	20-50	50-100	Over 100	Total
1921 .	112,607	48,945	34,509	22,692	2,646	250	221,649
1930 .	110,646	55,500	41,256	24,092	2,456	195	234,145

[1] *Verslagen en Mededelingen van de Directie van den Landbouw*, 1934. Departement van Economische Zaken, No. 5, pp. 130-131.

The rate of unemployment in Holland is high; 400,000 are out of work in a population of 8,000,000. Unlike Germany and Denmark, Holland has no land settlement policy; indeed, one of the main problems of the country is to prevent an increase in unemployment due to the decline in agricultural population. Dutch agriculture largely depends on Britain and Germany for an export market, and since the adoption of a protectionist policy by Britain, and of currency restriction by Germany, it has been severely hit, particularly in dairying and horticulture. The severity of the decline in exports is shown by the following tables :—

TABLE II

EXPORT OF BUTTER IN TONS, 1929-33 [1]

Countries of Import	1929	1930	1931	1932	1933
Germany	36,083	31,390	18,958	9,885	12,847
Great Britain	6,458	4,557	4,791	2,335	8,158
Belgium	2,967	4,202	5,322	3,513	3,939
France	603	569	2,712	3,379	2,275
Other Countries	1,210	1,101	1,175	1,265	1,154
Total	47,321	41,909	32,958	20,377	28,373
Value in Fl. 1000	..	63,377	40,955	18,025	18,545

TABLE III

EXPORT OF CHEESE IN TONS, 1929-33 [2]

Countries of Import	1929	1930	1931	1932	1933
Germany	42,584	39,415	34,820	32,222	25,066
Great Britain	9,904	9,610	8,934	9,175	6,716
Belgium	17,067	19,029	17,854	17,635	17,315
France	11,409	12,875	13,784	9,574	6,992
Spain	3,326	3,071	2,267	1,346	1,266
Other Countries	11,525	9,775	8,732	7,186	6,557
Total	95,815	93,775	86,391	77,138	63,912
Value in Fl. 1000	79,057	67,785	52,037	35,926	28,457

It is clear from the above tables that the decline in the volume of exports has been associated with a rapid fall in value. The extent

[1] *Ibid.*, No. 5, p. 42 and No. 3, p. 36.
[2] *Ibid.*, No. 5, p. 43 and No. 3, p. 37.

of the fall in the value of exports and in the price of certain vegetables and fruit is shown below :—

TABLE IV

EXPORT OF FRESH VEGETABLES, 1929-33 [1]

Year	Million Kg.	Million Guilders
1929	418·6	54·7
1930	412·9	49·2
1931	337·1	42.9
1932	304·4	29·0
1933	247·4	22·5

TABLE V

PRICES OF FRUIT AND VEGETABLES, 1929-32 [2]

Description	Per	1929	1930	1931	1932
		Gld.	Gld.	Gld.	Gld.
White Cabbage	100 Kg.	10·45	1·90	3·22	1·34
Savoy ,,	100 Kg.	7·38	5·12	3·43	1·88
Red ,,	100 Kg.	10·09	4·80	5·66	2·08
Cauliflower	100 Kg.	..	9·74	8·30	7·20
Lettuce	100	6·46	3·48	3·61	3·02
Tomatoes	50 Kg.	11·03	12·84	12·26	6·90
Cucumbers—					
Glass	100	11·85	10·92	10·86	7·40
Outdoor	100	10·39	8·55	7·03	5·33
Carrots	100 bunches	5·80	5·29	4·77	4·53
Raspberries	100 Kg.	12·17	4·51	4·97	4·64
Red Currants	100 Kg.	12·64	6·24	8·57	7·04
Black ,,	100 Kg.	23·07	10·47	17·47	32·00
Strawberries	100 Kg.	60·91	23·48	12·77	14·64

As may be gathered from these figures the position of Dutch agriculture is extremely precarious, and the Government has been compelled to take drastic steps to assist producers. The Agricultural Crisis Law, which has been passed to meet the situation, empowers the Minister of Agriculture to take "whatever action appears necessary to assist the industry." It enables him to fix prices, to control production, and to forbid the export or import of any agricultural or horticultural commodity. The State has also provided large credits and grants to the industry, and particularly to horticulture, to buy up and dispose of surplus produce. The acreage under bulbs has been restricted by one-third to one-half

[1] *Ibid.*, No. 5, p. 50.

[2] *Ibid.*, No. 3, 1934, p. 89.

of 1932 area. Minimum prices have been fixed at the vegetable auctions, and vegetables failing to make this price must be destroyed. In order to subsidise export, the home butter price has been pegged at approximately three times the export price. At the same time the land released from the cultivation of bulbs and vegetables has been planted in wheat, the production of which is heavily subsidised. The area under wheat in Holland has increased from 45,000 hectares in 1929 to 145,000 hectares in 1934, while in the same period imports have fallen from 3 million to 2 million tons per annum—a fact which must still further aggravate the world wheat situation.

The agricultural situation in Holland is an admirable illustration of the effect of restriction of international trade; as her exports have declined, she has reduced imports and turned towards a policy of self-sufficiency in agricultural and industrial requirements. The adoption of a land settlement policy by Great Britain would appear of necessity to be associated with a further restriction of agricultural imports from Holland; it would inevitably increase the distress of the Dutch agriculturalists and lead to a further decline in Dutch imports.

CHAPTER V

SMALLHOLDINGS IN THE COUNTIES[1]

THE type of smallholding which is modal, *i.e.* most general, in any area is governed by a variety of factors, of which soil and climate, market facilities, the security or insecurity of employment in both agriculture and industry, and the wealth of the local population are the most important. Development is also affected by certain psychological influences, such as capacity for thrift, desire for material possessions, or for the personal freedom which results from access to the land. Broadly speaking, however, the character of the smallholding in this country has been so closely influenced by economic forces that, given a description of the soil, climate and economic status of the locality, it is possible within limits to describe the modal type of smallholding in the area.

Factors affecting certain Smallholding Types.—In existing conditions the following generalisations are possible :—

(1) As a result of the limited area on which he operates, the smallholder must concentrate on the production of high value commodities. Of these, pigs, poultry, milk, market garden and glasshouse produce and fruit are the most important.

(2) Holdings on heavy land, if successful, are mainly in pasture ; they produce milk, pigs and poultry, and are generally fairly large purchasers of feeding stuffs.

(3) Holdings on very light land concentrate on pigs and poultry and, where possible, add barley and sugar beet.

(4) Holdings on medium or good quality land permit more diversified cropping, and generally contain a fairly high proportion of arable land in cash crops, together with a variety of livestock. The better the land the smaller the area required to support the family. The main horticultural areas are on these soils.

(5) Centres of population are generally encircled by small-

[1] Throughout this chapter—

(*a*) Unless otherwise stated the term smallholding refers to a full-time holding.

(*b*) A "bare-land" holding is one not provided with buildings.

holdings of the smaller type producing pigs, poultry and eggs, market garden and/or glasshouse produce for local requirements, and frequently milk. In certain closely populated districts—notably Lancashire—the small 3-4 acre intensive poultry unit has been developed.

(6) Downland holdings are mainly devoted to dairying, sheep and poultry keeping. The dairy holding is generally about 50 acres in extent, while the size of the poultry unit varies according to the capital investment and the production technique.

(7) In hill districts smallholdings cover fairly large areas of poor land and are generally of the subsistence type, sheep sales providing the main cash income.

(8) With the advent of motor transport, and the disappearance of the tradesman's pony, the demand for bare-land pasture near the villages has declined.

(9) As a result of low prices in practically every agricultural commodity, there is an overall trend towards an increase in the area of the productive unit.

(10) There is a very definite increase in the concentration of production as the area of the holding declines, *e.g.*

(*a*) Holdings under 2 acres derive their income mainly from glasshouse production and market garden crops.

(*b*) Holdings from 2-20 acres may concentrate on market gardening, glasshouse produce, poultry, or pigs, while in certain areas, near towns, milk is produced. In this size group, the income of pasture holdings is generally derived from livestock and their products, and the bulk of the feeding stuffs required are purchased. Such a method of production may be described as the factory system of agriculture, as the land is used not to produce food but largely for "floor space."

(*c*) Holdings from 20-50 acres have a much more diversified organisation. They produce milk, pigs, poultry and eggs, fruit, vegetables, wheat, sugar beet, barley, veal and fat stock, etc. On pasture holdings of this size the factory system sometimes operates, but for the most part the agriculture is based on mixed arable production. A considerable variety

of commodities, mainly livestock or livestock products, are cashed and a large part of the food consumed in their production is grown on the holdings.

The Eastern Province.[1]—The counties of Norfolk, Suffolk, Cambridge, Huntingdon and the Isle of Ely are essentially rural in character. The province forms one of the most important smallholding districts in the country, and in the absence of local markets the average size of the smallholdings tends to be fairly large. The prevailing type of full-time smallholding is from 40 to 50 acres in extent, and is fully equipped with house and buildings.

Speaking generally, the holding which has proved most successful in the province during the last ten years has been the fully equipped mixed arable holding of 40 to 50 acres, growing sugar beet and wheat or barley as cash crops, producing a variety of fodder crops and cereals for home consumption, and deriving the greater part, about 75 per cent., of its gross income from the sale of livestock and livestock products. From this general frame a large variety of organisations emerge.

On the heavy clay lands of Huntingdon and Cambridge, the holdings, mainly arable, are generally unsuccessful; in 1932 and 1933, when financial returns were obtained from 19 holdings between 20 and 50 acres in this district, the average family income was only £39 and £46 respectively. The land is too heavy for sugar beet, and wheat and beans are the main crops. Few livestock are kept, and the land is locally considered unsuitable for poultry. The holdings are generally under-capitalised and the fields in need of drainage.

On the chalk lands of Cambridge, wheat, barley, sugar beet and small seeds combine with milk, pig and poultry production. Here the land is mainly arable, the pastures generally being situated on the lower ground or in the villages.

On the loam soils of Norfolk and Suffolk a mixed organisation is practised in which sugar beet, barley and wheat with, in certain cases, an admixture of fruit and vegetables, are the main cash crops; milk, pigs and poultry are the principal livestock enterprises. In these lands the proportion of grassland and arable varies widely. On the sandy soils of the Norfolk and Suffolk breck the most successful holdings are those where the land is sufficiently fertile to grow sugar beet, and where dairying for local supply is made possible by the

[1] Throughout this chapter see Appendix B—a summary of the replies of the County Council Land Agents to a Questionnaire.

presence of river meadows. There are also a number of successful specialist poultry holdings in the district, which, by reason of the light nature of the soil and low rainfall, is admirably suited for poultry production.

Moving into the fens the holdings change their character. Their area tends to decrease as a result of the greater fertility of the soil, and the percentage of arable land is higher than on the loams. Owing to the instability of the fen land, construction in timber and corrugated iron replaces the brick buildings of the higher levels. Here the size of the holding ranges from 10 to 50 acres, and wheat, barley, sugar beet, potatoes, carrots and mustard are important cash crops, while pigs are the principal livestock. The high productive capacity of the land may be gathered from the fact that yields of 8 quarters of wheat and 16 tons of sugar beet per acre are not uncommon.

While, throughout the province, the mixed arable holding is in the majority, there are, in certain districts, holdings of a specialist nature which have arisen as a result of some local condition. These are of varied, and often doubtful fortune. Apples, plums, strawberries and a certain amount of bush fruit are grown on the greensand round Cottenham in Cambridgeshire; cows and pigs are the principal livestock. Here there are also a number of part-time or supplementary holdings producing strawberries, vegetables and flowers. Producers in the Cottenham district have suffered severely as a result of low fruit prices.

In the fens around Wisbech, which at one time was reputed to be the wealthiest town per head of population in England, there is a large area under plums, apples, strawberries and other fruit, while bulb and vegetable growing is becoming increasingly important. A succession of unprofitable years, however, has undermined local fortunes, and smallholders in the district are in a difficult position. In recent years there has been a considerable increase in glasshouse (mainly tomato) production, while a number of producers are experimenting with the production of salad crops under "Dutch lights."

A feature of the fen is the large number of part-time or supplementary holdings, and approximately 75 per cent. of all holdings owned by the Isle of Ely County Council are of this type. They are mainly bare land, are 1 to 3 acres in extent, and occupied by agricultural workers or rural tradesmen. For the most part they comprise an acre of strawberries or a larger area of land worked in a rotation of potatoes, sugar beet and wheat.

In the counties so far dealt with, land suitable for mixed arable or poultry holding can be bought at £8 to £17 per acre, while an acre of market gardening and fruit land costs £25 to £30. The price of fen land ranges from £40 to £60 [1] per acre.

Lincolnshire.—The county of Lincoln is divided for administration into the divisions of Holland, Kesteven and Lindsey. In the Holland division, the predominant soils are fen and silt. The latter are probably the most fertile soils in the country, and are capable in certain cases of producing 11 quarters of wheat, 20 tons of potatoes, and 22 tons of sugar beet per acre. The average yields of these crops in the district are stated to be 7 quarters of wheat and 12 and 15 tons respectively of potatoes and sugar beet. At a recent sale near Sutton Bridge, 200 acres of silt land were sold for £28,000. Potatoes are the main crop, while sugar beet, wheat, bulbs, strawberries and vegetables are important.

There are a large number of part-time holdings in the division; the Holbeach estate of the Ministry of Agriculture contains 250 holdings of this type ranging from ½ to 2 acres, the majority of which are occupied by agricultural labourers. The Ministry of Agriculture also owns an estate of 4994 acres at Sutton Bridge, which has been very successful, the loss through non-payment of rent from 1926-32 being less than £100 on a total payment of £130,000. Approximately 88 per cent. of the estate is arable, of which 17·5 per cent. is under wheat, 9·4 per cent. under oats, 35·1 per cent. under potatoes, 6·3 per cent. under sugar beet, and 4·1 per cent. is in strawberries. The 5000 acres were subdivided as follows: —

12 holdings	between	5	and	10	acres.
14 ,,	,,	10	,,	15	,,
18 ,,	,,	15	,,	20	,,
31 ,,	,,	20	,,	30	,,
83 ,,	,,	30	,,	50	,,

Strawberries are largely grown in the Holbeach and Gedney districts, while bulbs are confined to the area around Spalding. During the last few years there has been a considerable expansion in glasshouse production and here, as in the Isle of Ely, increasing interest is being taken in Dutch light cultivation.

Passing on to the Lindsey division of Lincoln, the holdings, mainly of the equipped type, range from 20 to 50 acres. The agri-

[1] These and subsequent figures in this chapter on the cost of land were supplied by the Ministry of Agriculture and Fisheries, and refer to May 1935.

culture of the area shows considerable variation. In the Boston district, potatoes and wheat are the chief crops. The land is mainly arable, and there are few livestock. In the Isle of Axholme, market gardening is practised on the warp land, which is formed of a deep deposit of river mud, and is in consequence extremely fertile. Here potatoes, celery, table beet, carrots, peas, asparagus, and salad crops provide the main income. The produce is marketed in Manchester and Bradford, but during the past few years, producers have experienced heavy losses as a result of low prices and the overproduction of vegetable crops, and rebates of 20 per cent. in the rent of County Council holdings have been necessary.

On the Lincolnshire wolds, the fields are big, and the country has the open look of chalk land, although there are none of the wide downs which are associated with the chalk in the south of England, and the land is more completely farmed. The medium and large sized arable holding is typical of this district, while the smallholding usually comprises 50 acres of mixed arable land. Barley is an important crop, while the acreage in wheat has increased since the passing of the Wheat Act. Milk and sheep are the main livestock enterprises. The Cliff district of Lindsey, which used to be sheep country, is rapidly changing over to potatoes as a result of eelworm disease in the Holland division.

Rents on the Lindsey holdings range from 40s. to 50s. per acre; 175 holdings let at 40s. and 184 holdings let at 50s. were established under pre-war and post-war settlement respectively. Mr Tong, the County Land Agent, stated that on the Holland side of Boston the value of land, some of which was sold for as much as £300 per acre during the war, now ranged from £80 to £100 per acre. The better situated soils of the wolds are worth from £10 to £15 per acre, while on the high wold, and on the clay belt in the north-east, land can be obtained for as little as £5 per acre. From figures provided by the Lands Division of the Ministry of Agriculture, land in Lincolnshire suitable for (*a*) Dairy holdings, (*b*) Mixed arable holdings, (*c*) Market gardening, (*d*) Poultry (bare land) can be obtained for (*a*) £30 to £35, (*b*) £25 to £30, (*c*) £75, (*d*) £25 respectively per acre.

Yorkshire.- In the East Riding of Yorkshire, the 50-acre mixed arable or dairying holding predominates. On the Council estate of about 8000 acres, only 20 holdings are less than 10 acres, and these are chiefly used for poultry and market gardening. In this district there are no applicants for new holdings on the books of the Council. According to Mr Tate, the County Land Agent, few of the Council

tenants have prospered during the last few years; the most successful have been those occupying mixed arable holdings, or dairy holdings of 40-50 acres. The latter, however, have suffered as a result of the Milk Marketing Board regulations, which have reduced the profits of established producer-retailers.

In the North Riding of Yorkshire, the smallholder concentrates on dairying and mixed arable production. There are very few market garden or pig and poultry holdings. The usual size of the mixed holding is from 20 to 50 acres, and during recent years the 50-acre mixed holding has been the most successful. There is practically no demand for new smallholdings in the area. Land suitable for mixed arable or dairy holdings can be purchased for £20 to £30 per acre, while land for poultry, mainly in urban districts, costs from £30 to £45 per acre.

Northern and North Midland Counties.—In the county of Durham, the most common type of holding is the mixed arable or dairy holding of 50 acres, and these appear to have been moderately successful during the last few years. There is a considerable demand for land in this district, 509 applicants for 7049 acres being on the books of the Council. The demand has resolved itself mainly into two types: (*a*) unemployed men with large allotments or ¼-acre poultry holdings who desire holdings of 4 to 5 acres for the production of pigs, poultry and glasshouse produce; they require capital and considerable practical supervision; or (*b*) 50 to 60 acre dairy holdings.

In Derbyshire, Cumberland and Northumberland, the main occupations of the smallholder are dairying and stock-rearing on 20 to 50 acre fully equipped holdings. There are a number of market garden holdings of 4 to 12 acres at Melbourne, south of Derby, on a tract of loam soil, but in recent years the demand for new market garden holdings has declined.

In Nottingham, part-time pig, poultry and vegetable holdings of 1 to 5 acres predominate. There are also a number of mixed arable and dairy holdings of 40 to 50 acres, and specialist pig and poultry holdings of 4 to 5 acres. Mr Morris, the County Land Agent, states that during the past five years the part-time holdings have been the most successful, followed by the mixed arable holding producing milk. The market garden holdings, which generally lie on the outskirts of the larger towns, are losing money as they cannot successfully compete with the large growers in Lincolnshire who send their produce to the district.

Lancashire.—The most interesting feature in the county of Lancaster is the small intensive poultry holding. The downward trend of cereal prices, a good local demand for eggs, and a high rate of unemployment in the cotton and steel industries, which has compelled labour to seek alternative occupations, have given rise to a large number of these holdings. The Lancashire poultry holdings range from 3 to 5 acres in extent, and are provided with a dwelling-house, a food store and an incubator room. The annual rent of a 3-acre holding is approximately £35, with an addition of about £3 for each succeeding acre. Holdings of this nature carry from 800 to 1500 birds and are run on intensive or semi-intensive lines. The poultry houses are fitted with electric light which is used to stimulate egg production; in winter they are lit till 7.30 at night, and again in the morning from 4.45 A.M. till full light. The current is switched on and off by an electric clock, and is made to pass through a resistance, so that in the morning the light comes on and in the evening goes out gradually. The eggs are mainly sold wholesale at a price fixed twice weekly by a committee at the Garstang and Preston markets. The independent, energetic and thrifty character of the Lancashire people ensures that, for the most part, management is efficient, but even so, it has not been possible in many cases to avoid disease. Every effort is made to reduce production costs by the use of balanced rations and high yielding stock, but the impression was gained that the success of the Lancashire poultry holdings has been largely due to the fact that during recent years the price of cereals has fallen more rapidly than the price of eggs, and that in this respect these single product holdings are exceedingly vulnerable.

In the south-west of the county, the holdings are mainly arable, while the clay soils round Preston are devoted to dairying. At Marton, near Blackpool, there is a tract of fertile soil in market gardens. In spite of what might be expected to be a good local market in Blackpool, the bulk of the produce grown at Marton was said to be marketed in Yorkshire.

It is difficult to obtain land for agriculture in Lancashire at an economic price, as most of it has building value. In the Furness area, land suitable for dairying or stock costs from £30 to £40 per acre; in the west of the county, dairy, poultry or market garden land costs from £40 to £60 per acre; in the south-west similar land costs from £30 to £45 per acre; and in the east the average price runs from £30 to £40 per acre. In 1934 an estate of 47 acres was purchased by the Lancashire County Council for poultry holdings at

a cost of £1775, and holdings were established on this land at an economic rent.

Bare-land holdings are generally successful in the industrial districts, where cotton operatives and others cultivate plots as a leisure-time occupation. The need for holdings of this nature is often supplied by land-renting associations, of which a particularly successful example comprising 600 members is found near St Helens.

Staffordshire.—In Staffordshire, one of the main milk-producing counties in England, the predominant and most successful type of holding is the mixed arable dairy farm of about 30 acres, carrying about 15 cows, 400 head of poultry and a few pigs. Of all agricultural holdings in the county 65 per cent. are under 50 acres in size, and of these only 5 per cent. are owned by the County Council. If we compare this figure with that of Cambridgeshire, where an equal proportion of all holdings are less than 50 acres in size, but where 84 per cent. of these holdings are owned by the Council, it is apparent that Staffordshire is a county of old-established holdings. As a result of a long smallholding tradition, the Staffordshire mixed holdings are mainly successful, and the people are thrifty and hard-working.

There are also a number of 1 to 5 acre market garden holdings, but although the occupiers are hard-working and efficient, they are generally unsuccessful. In the opinion of Mr Hotchkiss, the County Land Agent, the reason for their lack of success lies in the fact that they cannot compete with the large and more highly mechanised market gardener on 15 to 100 acres, of whom there are a number in the county. Mr Hotchkiss believes that the position of the small men could be relieved by greater concentration on fruit or glass-house production.

An attempt has been made to establish poultry holdings of the Lancashire type, but in contrast to Lancashire, without any great success. Eighty holdings of this type have been formed by the Staffordshire County Council, but, according to Mr Hotchkiss, only 5 per cent. could be accounted wholly, and a further 5 per cent. reasonably, satisfactory. These holdings were occupied by men from the potteries, the coal-mines and the steel-works, with a view to their eventually becoming full-time poultry keepers. Owing to a more sanguine temperament, and to the fact that the potteries of Staffordshire have been more active than the cotton mills of Lancashire throughout the depression, the settlers have shown little inclination to abandon their normal occupations for the hazards of

poultry keeping. As a house and 3½ acres of rough land suitable for poultry can be rented from the Staffordshire Council for about £22 per annum, *i.e.* a rent equal to that of a similar house in the adjoining towns, there has however been a considerable demand for this type of holding for residential purposes.

In North and South Staffordshire, land suitable for poultry costs from £25 to £35 per acre, while the cost of dairy land in the north-west ranges from £35 to £45 per acre. In the urban districts land is difficult to acquire and generally carries an exaggerated building value.

Western Counties.—The mixed dairy holdings predominate in the counties of Cheshire, Shropshire and Hereford. These are generally from 35 to 50 acres in extent, with about 7 to 10 acres of arable land and fully equipped with house and buildings. Holdings of this type have been reasonably successful throughout the depression. The occupiers are industrious and thrifty. In these counties there is no demand for unequipped land, and holdings of this type have had to be consolidated and equipped. Mr Phillips, Land Agent for the Hereford County Council, states: "It has been proved conclusively that bare land holdings are not wanted. The most successful type of holding is one over 30 acres. Less than that area is not sufficient to keep a man in full employment, and he is therefore dependent upon obtaining casual employment from neighbouring farmers, but as their busy times coincide with his own hay-making, harvest, etc., the smallholder is not available for hire at the particular time his services are required."

In Gloucestershire there are a variety of types of holding. In the vale districts, the small dairy farm of 30 to 50 acres is most common, while market gardening is carried on in the neighbourhood of Cheltenham, Chipping Camden, and in particular at Mickleton on the fringe of the Evesham district. Poultry keeping has in recent years increased to a very great extent. The general improvement in the knowledge and methods of poultry management has been a considerable factor in the success of these holdings. There is a steady demand throughout the county for full-sized equipped holdings suitable for dairying, while smaller holdings of 5 to 20 acres equipped with house and buildings for poultry are easily let. There is an increasing tendency among market gardeners to equip their holdings with glass, either for early plants or for flowers, tomatoes, cucumbers, etc., and as a general rule the tenants following this practice are most successful. An acre of market garden land costs approximately £60, land suitable for dairying from £30 to £35 per

acre, while bare land for poultry holdings can be obtained from £18 per acre.

Worcestershire.—In Worcestershire, the holdings are of very mixed type and range from 1 to 50 acres. An area of 8 miles radius around Evesham is devoted to market gardening. Holdings here range from 1 to 7 acres, with a modal size of 3 acres, and are usually unequipped; most of the smallholders live in the villages and cycle to work. In certain cases, houses have been erected by the tenants. As a result of the intensive nature of local cultivation, three acres provide full occupation for one man, and a holding of this size is generally worked by hand. It is estimated that only 10 per cent. of the small market garden holdings round Evesham are in part-time occupation. There are few Dutch lights, glasshouses or live-stock in the district. Evesham now finds its main market in the north and midlands, Glasgow, Huddersfield, Birmingham and Manchester being important consuming centres.

During the past five years the district has been extremely depressed, and the County Council has practically suspended settlement. Holdings falling vacant around Evesham are difficult to let, and several have had to be taken over by the Council. The main causes of the depression are (*a*) competition from other areas, notably Stafford and Cheshire, (*b*) the decline in demand for fruit and vegetables in South Wales, as a result of unemployment in the mining industry, and (*c*) as agricultural prices have fallen, competition from general farmers in the same district who have entered vegetable production on a large scale. During the past five years the profits of the small market gardener have been derived mainly from the sale of asparagus.

Land in the Evesham area costs £70 to £80 per acre, and rents range from £3 up to £6 or £7 per acre on the best land. It was stated that a gross income of £100 per acre per annum had been produced from this land between 1920 and 1927, and net incomes up to £200 on holdings of three or four acres. To-day, although the smallholders are experts in cultivation, it is becoming increasingly difficult for them to meet expenses.

In the other parts of Worcester, the holdings are mainly of 40-50 acres, fully equipped and farmed on mixed rather than on specialised lines. There is still a good demand for this type of holding, and it is their tenants who have most successfully withstood the recent periods of low prices, while occupiers in the Evesham district have suffered most.

Warwickshire. On the Evesham side of Warwick, market garden holdings ranging from 1 to 16 acres are found on the alluvial soil. On the clay and brash soils in the Shipston district, the holdings, chiefly under grass, range from 40 to 50 acres, and stock-rearing is the main enterprise. In the east and in the north of the county, the 50-acre dairy holding predominates, carrying from 10 to 11 cows, with pigs and poultry. The milk is sold wholesale except in the neighbourhood of the towns and villages, where a certain amount is sold retail. There are also a number of part-time holdings of 1½ to 2 acres throughout the county.

The County Council has also settled holdings of 4 to 5 acres for market garden and poultry keeping on the outskirts of the large towns. These have generally been unsuccessful. Several were visited, and the occupiers complained bitterly of difficulty in selling their produce. There were also a number of bare-land pasture and mixed arable holdings, ranging from 5 to 15 acres. Before the war there was a considerable demand for this type of holding from the village tradesman, viz. publican, blacksmith, carrier, etc., but they are now impossible to let and are being consolidated into larger holdings.

In the country districts the allotment schemes were generally neglected, and it was interesting to note that the only allotments under cultivation were those nearest the village.

Leicestershire. In the adjacent county of Leicester, milk production is the smallholders' main enterprise, while a certain number have taken up market gardening and poultry keeping. Since the slump in prices it is felt that dairy holdings of less than 40 acres will not carry enough stock to enable a man to earn a living, and there has been a tendency for them to increase in area. The most successful holdings are dairy farms of around 50 acres, of which approximately four-fifths is in pasture and provided with 11 cows.

Land suitable for market gardening in the county is limited, and the demand for market garden produce has increased with the growing population. The Agent to the County Council stated his tenants "are just about holding their own and therefore can hardly be called contented or prosperous. Their chief grievance concerns low prices, including the net price of milk."

Northamptonshire. In the county of Northampton, market garden holdings of 5 acres, poultry holdings of 10 acres and dairy

holdings of 50 acres are the most common types. During the past five years, the mixed farm of 50 acres, with about one-third arable land, where dairying, pigs, poultry and the rearing of young stock are the main enterprises, has most successfully met the depression. Mr George, Land Agent to the County Council, states that "during the past five years it has become increasingly impossible for small market gardeners to obtain a living unless they have shops in which to dispose of their produce, as improvement in transport has resulted in vegetables being delivered to the district by large growers at a distance who can produce at less cost." In this county there is also a tendency, as prices fall, for the size of the holding to increase.

The Home Counties.—The Bedfordshire County Council owns approximately 13,000 acres, of which about half is in market garden holdings in the neighbourhood of Sandy and Potton. The remainder, except for a number of dairy holdings round Leighton Buzzard, are chiefly mixed holdings of 30-50 acres. Market garden holdings range from 15-35 acres, and show a tendency to increase in size as falling prices compel more extensive methods of production. During the past few years, the market garden area has been extremely depressed, and the annual loss in rent incurred by the Council has increased steadily since 1930, and is mainly attributable to this area. Mr Russell, the Land Agent for the Council, stated "that the mixed holding of about 50 acres with little or no hired labour was by far the most profitable."

The most common and the most successful holding in Buckingham is the mixed dairy holding of about 50 acres, with a small area of arable land. There are few market gardens or poultry holdings. During the past ten years the demand for part-time holdings has declined, and a large number of existing holdings of this type have been given up.

In Hertfordshire, the most successful holding is from 40 to 50 acres in extent, farmed on mixed arable lines, and with buildings suitable for cows, pigs and poultry. There are also a number of market garden and poultry holdings, but in spite of their proximity to London, tenants of the former type have experienced difficulty in selling certain market garden crops; on the whole, however, "smallholders are fairly contented and just manage to make a living."

In the adjoining county of Essex, there are a variety of smallholding organisations. On the heavy clays of south Essex, the

dairy and poultry industries have developed in contact with the London market; the holdings range from 40-50 acres, approximately 70 per cent. of the land being in pasture. In south-east Essex, and on the better quality lands of the east coast, there is a certain amount of market gardening and fruit production; in the neighbourhood of Southend are found a number of holdings mainly of the part-time or supplementary type, which produce fruit, flowers and eggs, and carry on a roadside trade with passing motorists. In the Witham and Colchester districts, a system of mixed arable dairying is practised, while in the west and north-west of the county the mixed arable holding predominates, producing wheat, sugar beet and a variety of livestock.

The cost of land in Essex ranges from £18 for land suitable for mixed farming, where there is no building value, to £100 per acre, in the south and south-eastern area for land suitable for market gardening. Land in the dairying districts around Witham and Colchester costs about £30 per acre.

The South-Eastern Counties.—The counties of Surrey, Kent and, to a lesser extent, Sussex, are unique in possessing what is probably the finest local market in the country, and the large increase in the number of better-class houses, which has occurred in these districts since the war, has resulted in the growth of a varied community of smallholders catering for local needs.

In Surrey there are two main types of holding: on the lighter soils, holdings of 1-5 acres, producing flowers, fruit and vegetables for the local market; and on the weald clays, holdings of 30-50 acres devoted to grass-land dairying. Between these lie a wide variety of types. Speaking generally, poultry, and, to a lesser extent, market garden holdings, are to be found in the neighbourhood of the towns. The 1 to 5 acre holdings have been very successful; the marketing question hardly exists, and the smallholders have been able to retail their produce to rapidly growing urban and suburban populations. Recently dairymen have suffered as a result of the producer retailer's levy under the Milk Marketing Board, and several of the smaller men, who hitherto found it possible to obtain a living from 7-8 cows and a few poultry, are being compelled to increase the size of their herd or, if they have insufficient capital to do so, are being driven out of business.

The rental of a 2-acre market garden holding with house is approximately £33. Some indication of the rents obtained for

poultry holdings may be gathered from the following rents of individual properties :—

	Acres	Rent
A	9·8	£51 15 0
B	5·8	43 16 0
C	9·3	50 8 0
D	5·4	41 5 0
E	5·2	41 10 0
F	4·3	39 5 0

These figures include the rent of a house assessed locally at 10s. a week.

As a result of building development, most of the land in the district has building value and is difficult to obtain for agricultural purposes. The rapid rise in land values is shown by the fact that the Woodcote Estate in the neighbourhood of Croydon, Woodmansterne and Purley, which was purchased in 1920 by the Surrey County Council for £23,000, is now worth about £230,000 as building land.

As a result of the levies required by the Milk Marketing Board, there is a tendency for the dairy herds to increase in size, and where possible, additional cow-stands are being built on Council holdings, as tenants who have the necessary capital are keeping more cows in an attempt to maintain their income. In one holding of 33 acres visited, the number of cows had been increased from 12 to 17 as a result of the milk levy. As most land in this district has a potential building value, dairying land on the weald clay costs between £40 and £50 per acre.

The South-Western Counties.—In Hampshire, the main types and sizes of holding can be grouped as follows :

Dairying	30-50 acres.
Market Garden . . .	1-10 ,,
Fruit Growing . . .	1-6 ,,
Poultry and Pigs . .	2-6 ,,

Of these the dairy holdings have been most successful during the past five years, but here again there is a tendency in favour of larger areas, and bare land is unwanted. There is a certain amount of glasshouse production, and smallholders with glass have done well. Strawberries for the early market are an important crop, but yields are declining steadily as a result of disease.

In Dorset and Wiltshire, the modal and most successful holding

has been the grass-land dairy holding of 40 to 50 acres. The recent tendency in demand has been for larger holdings, while the demand for areas under 10 acres is very small. It is estimated that only approximately 5 per cent. of the tenants are part-time smallholders; these occupy 5 to 15 acres of pasture and are, generally speaking, not successful.

In North Devon, the mixed arable holding is most common, but in the remainder of the county, dairy holdings of 40 to 50 acres and market garden holdings of 2 to 10 acres are more favoured. Dairy holdings are stated to be the most successful, followed by market garden holdings, where these have been established for at least ten years. 30 per cent. of the tenants are part-time holders, occupying about 10 acres of accommodation land, or up to 25 acres for dairying and cattle rearing.

The Cornish County Council estate of 12,000 acres is roughly apportioned as follows :—

	Per cent. of total number of Holdings
Dairying—from 25 to 50 acres . . .	40 per cent.
Mixed arable—from 25 to 50 acres . .	50 ,,
Market Garden—from 1 to 5 acres . .	4 ,,
Pigs and Poultry—from 3 to 8 acres . .	6 ,,

Of these, the 30 to 50 acre fully equipped holding with a bias to dairying has been most successful. The annual income of the market gardener in this district depends on the "hardness" of the winter, and on the time and size of foreign supplies of early potatoes and broccoli. In the Tamar district, strawberry mildew has been prevalent and growers have changed to bulbs with very good results; and in the opinion of the County Land Agent there still appears to be good prospects in this direction. The Council has not purchased land in the market garden districts chiefly on account of its price.

CHAPTER VI

VEGETABLES: PRESENT AND POTENTIAL PRODUCTION

Production.—It has been pointed out that the smallholding, by reason of its limited area, must produce high value commodities, and that the production of milk, pigs, poultry and eggs, vegetables and fruit are admirable smallholding enterprises. It is moreover on the production of these commodities that any scheme of smallholdings must depend, and in an investigation of this nature it is essential to examine the present position of these crops and the recent trends in their production.

In their official statistics, the Ministry of Agriculture and Fisheries enumerate the acreage of certain vegetables, viz. carrots, onions, cabbages, Brussels sprouts, cauliflower and broccoli, celery and rhubarb. The rapid increase in the total acreage of these vegetables which has occurred on agricultural holdings of more than one acre in size since 1923 is shown below: -

TABLE I

ACREAGE UNDER CERTAIN VEGETABLES IN ENGLAND, 1923-33 [1]

	1923	1929	1930	1931	1932	1933
Acres	73,269	96,965	94,826	111,665	113,365	118,364

From the above figures it is evident that the total acreage in vegetables enumerated above has increased by 45,095 acres or 61·7 per cent. since 1923.

Below are given the increased acreages in these individual crops reported by the Ministry of Agriculture, from which it will be seen that, except in the case of onions, the acreage of each vegetable has shown a considerable increase. The acreage under Brussels sprouts was 113 per cent. greater in 1933 than in 1923, and during the same period the acreage of cauliflower, cabbages, carrots, celery and rhubarb increased by 86, 44, 27, 38, and 43 per cent. respectively.

[1] *Agricultural Returns*, 1923-33.

TABLE II

ACREAGE UNDER CERTAIN VEGETABLES IN ENGLAND, 1923 and 1933[1]

Vegetable	1923 acres	1933 acres	Increase %
Carrots	9,944	12,678	27·5
Onions	2,324	1,920	17·4
Cabbages (for human consumption)	22,206	32,149	44·8
Brussels Sprouts	16,841	35,717	112·8
Cauliflower and Broccoli	10,982	20,452	86·2
Celery	5,304	7,332	38·2
Rhubarb	5,668	8,116	32·2
Total	73,269	118,364	61·7

It is further estimated[2] that the asparagus crop has been increased by 500 acres during the last two years.

As a result of these increases in acreage, large quantities of vegetables have been thrown on the market, and there is, at the moment, strong evidence of overproduction in certain crops, particularly in vegetables of the more common type. At the same time, signs of overproduction are appearing in certain semi-luxury crops; it was repeatedly stated that the production of both celery and asparagus is rapidly reaching a point when the price received will be unsatisfactory to the grower.

The cost of an individual crop of Brussels sprouts in the years 1929 to 1933, together with the total receipts during each year, is given below. These figures were submitted by a Bedfordshire grower whose efficiency and good faith is vouched for by Mr Russell, the County Land Agent.

TABLE III

EXPENDITURE AND INCOME FROM BRUSSELS SPROUTS CROPS, 1929-34

Year	Acreage	Total Expenditure per acre	Total Receipts per acre	Profit or Loss per acre + or −
1929	3	£22 15 10	£28 10 11	+ £5 15 1
1930	4	19 0 11	23 0 2	+ 3 19 3
1931	4½	16 13 6	17 3 4	+ 0 9 10
1932	3	20 8 4	18 13 4	− 1 15 0
1933	7	18 4 4	17 18 10	0 5 6
1934	5	17 10 0	11 18 9	− 5 11 3

During the three years 1929-31 this grower, whose experience was held to be fairly typical of that of other producers in the district, showed a small profit on his sprout crop, but during the last three

[1] *Agricultural Returns*, 1923 and 1933.

[2] A. V. Campbell, Markets Division, Ministry of Agriculture and Fisheries.

years he has made a loss. Around Evesham, where cultivation is more intensive than in Bedford, the average cost of growing Brussels sprouts appears to lie between £23 and £27 per acre, while the average gross return after paying carriage and commission is stated to have been around £25 per acre.

It emerged from conversation with growers, Land Agents, and officials of the Ministry of Agriculture, that there is a definite overproduction in the vegetable industry, and that any further expansion, at least in the more common type of vegetables, would be harmful to existing producers. Growers, both in the Evesham and Bedfordshire districts, were of the opinion that a vegetable marketing scheme with some restriction of acreage was essential.

The following statements by the Land Agents responsible for the County Council Smallholding Estates throw further light on the present position of market gardeners. These gentlemen are together responsible for the administration of 88,900 acres in smallholdings having an aggregate rent roll of £188,890.

In answer to the question as to whether there was any evidence of overproduction in market garden crops, Mr Hill (Worcester) wrote: "Yes, very much so. During the last fifteen years the area under market garden crops in the Evesham area has been more than doubled. In any favourable season, crops such as peas, beans, cabbages, sprouts are almost worthless—hardly paying the cost of picking—as soon as the general main crop is ready for marketing. This now seems to be a definite fact each year."

Mr Morris (Nottingham): "The Council do not have many market garden holdings, but there is a group of market gardeners near the city from whom I have received numerous complaints that they cannot get rid of the produce as they could a few years ago, and that Lincolnshire grown produce, dumped on the Nottingham market, has ruined local production."

Mr George (Northampton): "It has become almost impossible for small market gardeners to get a living unless they have shops in which to dispose of their produce. The improvement in transport has resulted in vegetables being delivered into the district by large growers at a distance, who can produce at less cost."

Mr Wisbey (East Suffolk) observed that "fruit and vegetables are becoming extensively grown by the larger type of farmer with whom the smallholder is unable to compete."

Mr Turner (Hertfordshire) states that in his district "at certain times of the year, market garden crops cannot be sold at all."

Mr Ellis (Norfolk) states that in his district "there has been very

definite overproduction in black currants, and that as a result of unremunerative prices, acres of bushes have been grubbed up."

Mr Small (Kesteven) states "in this district carrots are now being sold at 30s. a ton for stock feed, while very poor prices were received for the green pea crop."

Mr Every-Clayton (Monmouth) states that in his district "the market for market garden produce is affected by the widespread unemployment prevailing in South Wales, and there is competition from the Evesham district with which Monmouthshire growers find it difficult to cope."

Of the market garden holdings in Gloucestershire the Land Agent writes: "There is an increasing tendency among tenants to equip their holdings with glass, either for early plants, or for flowers, tomatoes, cucumbers, etc., and as a general rule, the tenants following this practice are the most successful."

Mr H. C. Tong (Lindsey Division, Lincolnshire) writes: "We have no smallholdings cultivated purely as market gardens, but at the present time in the local markets there is a surplus of nearly all market garden produce."

Mr Russell (Bedford) states that there is a very definite overproduction of market garden produce in Bedford. Of the total area of 13,000 acres administered by the County Council, approximately half is in market gardens; during each of the last four years, rebates in rent of 10 to 15 per cent. have been allowed, while the estate has cost the ratepayers approximately £15,000.

Mr Layston (Devon): "Apples have been unsaleable and green crops have been sold at unremunerative prices owing to overproduction. Large farms are now growing market garden crops."

When asked what size and type of holding in Worcester has been most successful during the past five years, Mr Hill wrote: "The ordinary mixed farm holding has been most successful. We have very few tenants who go in entirely for milk, most of them produce a little, but rely on stock-rearing, sheep and general farming for their living, and these tenants seem to have done best. Up to five years ago our market gardening smallholders were the most successful, but this branch has been very much over-done, and the last three years have been disastrous for this class of smallholder."

Value of Supplies.—Settlement, particularly of the 3-5 acre type, presupposes that the smallholders will obtain a considerable part of their income from the production of vegetables, and emphasis is laid on the possibility of increasing production, particularly of

the luxury and out-of-season type. It is believed that increased consumption will follow increased production at a price profitable to the grower.

How far has this belief a basis in fact ?

In 1933 the vegetable production of England and Wales was estimated [1] at approximately £24,000,000 ; of this amount approximately 50 per cent. or £12,000,000 was produced in private gardens and allotments, while the remaining £12,000,000 was produced by commercial growers. Of this commercial production, it is estimated that approximately 50 per cent. or £6,000,000 is sold direct from the producer to retailer or consumer, while £6,000,000 passes through the wholesale markets. Of these figures, probably the most surprising is that for the high value of vegetables grown privately, and this fact must considerably limit the possibility of commercial expansion, particularly of vegetables of the more common type. The reduction in the permissible number of houses per acre in town-planning schemes has stimulated the garden production of vegetables, and this must be taken into account in any estimate of future production.

In 1931, £16·1 [2] million worth of vegetables, including tomatoes to the value of £4·6 million, were imported into this country. In 1933, mainly as a result of the Horticultural Duties Act (1930-31), which imposed certain duties on various types of horticultural produce, imports fell to £9·85 million.

In order to indicate the lines along which home production could be increased in the event of the total exclusion of vegetable imports, the imports for 1933 are analysed below : —

TABLE IV

IMPORTS OF VEGETABLES, 1933 [2]

Class	Value £
Tomatoes	£4,300,000
Potatoes	2,100,000
Onions	1,200,000
Dried Peas	1,300,000
Lettuce	330,000
Forced Beans	50,000
Asparagus	50,000
Carrots	100,000
Cauliflower	100,000
Cucumbers	50,000
Other Vegetables	170,000
Total	£9,850,000

[1] Unpublished data, Ministry of Agriculture and Fisheries.

[2] *Trade and Navigation Accounts.*

From the above figures it is apparent that, excluding tomatoes, potatoes, onions and peas, the total import of other vegetables amounted to only £870,000. If the 1931 import figures are compared with those of 1933, it emerges that potato imports have fallen from £8,000,000 in the former year to £2,000,000 in the latter, while onion and cauliflower imports fell by £500,000 and £300,000 respectively. Moreover, during 1934 the duty on carrots was raised from 2s. 8d. to 10s. a cwt., and that on cauliflower from 3s. to 4s. a cwt.; as a result imports of these vegetables in 1935 should be still lower.

Of the lettuce, £86,000 worth was imported between January and March inclusive, *i.e.* at a time when there are no home-grown field lettuce, the remaining £248,000 between April and December.

Effect of Horticultural Duties Act (1931).—It is desirable at this point to consider how far the home grower has (*a*) increased his acreage, and (*b*) received an improved price as the result of a reduction in imports. Cauliflower and potatoes are the two crops for which there is most information.

(a) *Cauliflower.*—In 1930-31 we imported cauliflower and broccoli to the value of £400,000. As a result of French competition and an expansion in home production, the price received by the Cornish broccoli grower was considered unsatisfactory. A duty of 3s. a cwt. was therefore imposed on imported cauliflower in 1931. As a result of this duty, imports of cauliflower fell from £400,000 [1] in 1930 to £100,000 in 1933.

What has been the effect on production? In the few years since the duty was imposed, the acreage of cauliflower grown in Cornwall has increased from 1500 to 3400 [1] acres. In the same time the acreage for the country as a whole increased by 7000 acres, in response to the expectation of a higher price. This increase is stated to have occurred mainly on large farms. As the value of an acre of Cornish broccoli is approximately £60,[2] home production in 1933 would appear to have more than filled the gap created by the exclusion of £300,000 worth of imports. The duty on broccoli for 1935 has been raised to 4s. a cwt.

Adequate data on prices are difficult to obtain, but the following figures indicate the price per crate at the London market of Cornish broccoli for the first eighteen weeks in the years 1931, 1932

[1] A. V. Campbell, Ministry of Agriculture and Fisheries.

[2] *Cost of Growing Broccoli in Cornwall and Devon*, J. J. Macgregor.

and 1933. They show that in 1933 the Cornish growers, in spite of import restrictions, and as a result of increased production, received a lower price for their produce than in 1931.

TABLE V

AVERAGE PRICE OF CORNISH BROCCOLI [1]

Year	Average price per crate (18 week period)
	Shillings
1922 . .	21·03
1924 . .	15·86
1931 . .	6·83
1932 . .	7·77
1933 . .	5·94

(b) *Potatoes.*—The total acreage of potatoes, the acreage and quantity of early potatoes, and the quantity and value of potato imports for the years 1930-31, are given below :—

TABLE VI

ACREAGE AND PRODUCTION OF POTATOES, 1930-33 [2]

Year	1930	1931	1932	1933
Total acreage in Potatoes .	424,660	446,772	504,275	518,934
Area in First Earlies (acres) .	38,700	40,200	47,200	55,100
Estimated total production, First Earlies (tons) . .	183,000	186,000	218,000	258,000

The total acreage under potatoes increased steadily between 1930 and 1933, 94,274 acres being added during the period. In 1933 the acreage was exceptionally high, but in 1934 it declined by 6½ per cent. At the same time the quantity of imported potatoes has declined as a result of import duties. Imports of all potatoes into the United Kingdom in 1934 totalled 154,000 tons, or only 3 per cent. of the total available supplies, and it has been calculated [3] that imports of main-crop potatoes in the season September-June 1933-34 were less than ½ per cent. of the home crop.

[1] *Ibid.* [2] *Agricultural Returns*, 1930-33.
[3] "The Agricultural Register," 1934-35, pp. 271-273.

TABLE VII

IMPORTS OF MAIN-CROP POTATOES INTO THE UNITED KINGDOM, 1928-29 TO 1930-31, AND 1931-34 [1]

	Quantities				Per cent. of Total	
	1928-29 to 1930-31 (Annual Average)	1931-32	1932-33	1933-34	1928-29 to 1930-31	1933-34
	000 cwt.	000 cwt.	000 cwt.	000 cwt.	%	%
Irish Free State	..*	649	264	120	..*	35·4
Netherlands	673	4,912	549	213	36·4	62·8
Germany	673	5,018	1	..	36·4	..
France	79	127	..	..	4·3	..
Belgium	..*	3,621	22	1	..*	0·3
Other Countries	424	1,901	21	5	22·9	1·5
Total	1,849	15,868	857	339	100·0	100·0

* Included in "other countries."

Imports of main-crop potatoes in 1934 represented about one-sixth of the annual average for the three seasons 1928-29 to 1930-31.

Mainly as a result of the heavy home supplies, the wholesale average price of King Edward VII and Majestic potatoes in 1933-34 was 79s. a ton, or 25 per cent. less than the average for the seasons 1927-28. The 1934 main crop was expected to be substantially lighter than the previous year, and wholesale prices opened in September at 117s. 3d. a ton. Warm weather and a high yield, however, caused a fall to 95s. 3d. in December, to counteract which the Potato Marketing Board enforced the use of a larger riddle. This measure checked but did not reverse the fall in prices.

TABLE VIII

AVERAGE PRICES PER TON OF FIRST AND SECOND QUALITY MAIN-CROP POTATOES, SEASONS OF 1927-28, 1929-30 TO 1934-35 [2]

	Wholesale		Growers	
September–May–	s.	d.	s.	d.
1927-28 to 1929-30	105	6	78	6
1930-31	128	3	106	6
1931-32	192	0	163	9
1932-33	85	3	66	0
1933-34	79	0	59	9
1934-35 *	106	6	81	6

* Four months.

[1] "The Agricultural Register," 1934-35, pp. 271-273. For method of calculation, 1928-29 to 1931-32, see p. 165; for 1934-35, imports of early potatoes are obtained from Weekly Fruit Intelligence Notes and subtracted from total imports to obtain imports of main-crop potatoes. The figures are liable to a substantial degree of error.

[2] "The Agricultural Register," 1934-35, p. 272. From Agricultural Statistics and Ministry of Agriculture.

Early Potatoes.—Total supplies of early potatoes in the United Kingdom for 1934 were estimated at 439,000 tons, of which 67 per cent. was home-produced. Imports were 12 per cent. less than in the preceding year or 46 per cent. below the average for 1929-31; French shipments were still excluded owing to restrictions against the Colorado beetle.

TABLE IX

IMPORTS OF EARLY POTATOES INTO THE UNITED KINGDOM, 1929-31, 1932, 1933 AND 1934 [1]

	Quantities				Per cent. of Total	
	1929-31 (Average)	1932	1933	1934	1929-31	1934
	000 cwt.	000 cwt.	000 cwt.	000 cwt.	%	%
Channel Islands	1,075	1,010	1,390	1,302	20·2	45·3
France	2,197	..	..	..	41·4	..
Spain	1,174	3,185	1,504	1,165	22·1	40·5
Canary Islands	182	249	79	162	3·4	5·6
Netherlands	423	900	247	184	8·0	6·4
Other Countries	263	1,025	55	65	4·9	2·2
Total	5,314	6,369	3,275	2,874	100·0	100·0

Compared with 1933, the fall in imports was largely due to a decline in Spanish supplies. Imports from foreign countries were limited by quotas, but as rather less than the agreed quotas were sent, the decline must be attributed to the heavy tariffs which have caused smaller plantings in exporting countries. In 1934 the prices of early potatoes averaged nearly 32s. a cwt. from April to July, 29 per cent. higher than in the previous year and only 8 per cent. lower than the average from 1927 to 1929.

TABLE X [2]

WHOLESALE PRICES PER CWT. OF EARLY POTATOES IN ENGLAND AND WALES, 1927-29 TO 1934

	Channel Islands						Sharpe's Express				April–July [3]	
	April		May		June		July		August			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1927-29	81	0	30	6	14	2	7	9	5	6	34	7
1930	58	6	21	6	9	0	7	7	5	5	24	2
1931	70	0	43	0	18	0	10	5	6	7	35	4
1932	59	6	42	6	20	0	8	5	4	9	32	7
1933	53	0	27	0	12	9	6	0	4	0	24	8
1934	71	0	34	0	14	4	8	5	6	9	31	11

[3] Unweighted.

[1] "The Agricultural Register," 1934-35, p. 273. From the Weekly Fruit Intelligence Notes, vol. viii., No. 25, 1934; and from the Monthly Trade and Navigation Accounts.

[2] "The Agricultural Register," 1934-35, p. 274. From Agricultural Statistics and Agricultural Market Report.

Prices in all months were higher than in the previous year, and this improvement was attributed partly to lower supplies and partly to greater demand.[1] Thus in 1934 the operations of the Potato Marketing Board were successful in obtaining a higher price for the farmer. It must be borne in mind, however, that this increased price was obtained by the restriction not only of imports but also of the home acreage and of saleable supplies.

In the case of these commodities, therefore, an increased possession of the home market has led to higher prices being received by the farmer only through the restriction of home-grown supplies. In the case of broccoli, the limitation of imports has not even enabled him to maintain prices at their previous level, as the expectation of a protected market has led to an increase in production which has more than made good the decrease in imports. Moreover, while the broccoli duties were, in the first instance, imposed in order to assist the Cornish grower, one of its main results has been to stimulate production by the general farmer outside Cornwall.

Two lessons can be learned from these facts :—

(*a*) The danger of using the price in any year as a basis for forecasting price in the future.

(*b*) The rapidity with which the production of vegetable crops by existing producers can, in the event of restriction of imports, overtake demand.

Vegetable Production on the General Farm.—It has been shown above that a large increase has occurred in the acreage under vegetables. From the point of view of Land Settlement, it is important to ascertain on what type of farm this increase in production has largely occurred. Available evidence suggests that the precarious position of the vegetable industry to-day is in large part due to the fact that the general farmer has in recent years increased his production of vegetables, and as a result of a lower scale of costs is slowly eliminating the small man. This increase has occurred in all the main vegetable-producing districts, but is most easily observed in West Suffolk and Norfolk. In these two counties which are not market gardening areas, the acreage under vegetables has increased from 1962 acres in 1923 to 7726 acres in 1933.[2]

The advantages of the general farmer in the production of vege-

[1] "The Agricultural Register," 1934-35. Agr. Econ. Res. Instit., Oxford.

[2] *Agricultural Returns*, 1923 and 1933.

table crops which lend themselves to cultivation on the field scale are enumerated below : —

(*a*) He can utilise machinery to the best advantage.

(*b*) His rental per acre is lower than on the market garden.

(*c*) His men are paid only agricultural wage rates.

(*d*) He can grow a vegetable crop as a fallow crop in his rotation and, if the market is unsatisfactory, feed it off to his stock, or, even in the event of his crop being marketed, the residue (particularly in the case of Brussels sprouts) provides a valuable feed for his ewes and lambs in the spring.

(*e*) As his crop has an alternative value as fodder, he sends only first-grade produce to market.

(*f*) He may be able to fit in a vegetable crop which will keep his men, horses and machines busy during an otherwise slack period.

(*g*) He obtains farmyard manure as a by-product from his stock.

As the general farmer must of necessity clean his land every third or fourth year, his problem is rather different from that of the market gardener. It is not so much a question of what fallow crop will make most money, as which crop will lose the least, and the vegetable field crop offers an excellent opportunity of at any rate recovering cultivation costs. While he welcomes any profit he may obtain, the price he receives is not of primary importance, as the crop has been grown as a speculation outside his regular farm organisation. On the other hand, price is of supreme importance to the market gardener, who sometimes depends on cabbage crops for 25 per cent.[1] of his net income and who cannot utilise economically any unsold residue.

Moreover, with increasing mechanisation in vegetable production, and the necessity for the intensification of production on the general farm, it appears likely that the mixed arable farmer will enter more and more into competition with the market gardener. If he does so, there are certain crops in which he will always be able to undersell the small man, and the ultimate effect of the movement will be a decline in the numbers of the small market gardens of the 3-5 acre type, as a result of their consolidation into larger units. This tendency is already in evidence in Bedfordshire and in Evesham, where the number of acres required to support one man is gradually increasing. Even in market gardens, the introduction of mechanical

[1] *Marketing of Fruit and Vegetables*, M. H. Abrams.

cultivators, roto-tillers, etc., is tending to increase the size of the optimum unit of production. The following example of a grower in the Vale of Evesham serves to illustrate the point. Mr X has a market garden of 20 acres and employed 10 men. He bought a Seamer roto-tiller and now requires only one man to 6 acres. He must now either increase his area to 60 acres and buy two more roto-tillers or get rid of 6 men.

In connection with the problem of the mixed arable farmer versus the small market gardener, we can divide vegetable crops into two groups :—

(*a*) those in the production of which the general farmer has an advantage, and

(*b*) those which are better suited to the small market garden.

This has been done below.

TABLE XI

Farm Crops	Market Garden Crops
Outdoor Cabbage and Lettuce	Cabbage, Cauliflower and Lettuce (glasshouse and out-of-season type)
Brussels Sprouts	
Cauliflower	Spring Onions
Broccoli	Asparagus
Green Peas	Mushrooms
Kidney and Runner Beans	Table Turnips (out of season)
Carrots	Radishes (out of season)
Onions and Shallots	Carrots (out of season)
Table Beet	Spinach
Celery	Lettuce
Parsnips	

In the above grouping, asparagus has been classed as a market garden crop, and it is this vegetable which has mainly enabled market gardeners around Evesham to maintain themselves during the past three years. It should be noted, however, that a large increase (500 acres) has occurred in the acreage of asparagus during the last two years, and this increase may cause a decline in price. Even asparagus, which appears essentially the prerogative of the small man, has not escaped the attention of the general farmer, and if the present experiment of growing it on a field scale in Norfolk and Essex proves successful, it may be placed on the market at a price which will considerably handicap the small producer.

The imports of the vegetables listed above as purely market garden crops are valued at approximately £300,000 out of a total

importation of £9,500,000 worth of vegetables. These crops are mainly out-of-season salad crops and vegetables of the luxury and semi-luxury type. It should be noted, however, that the possibility of expanding this type of production on a profitable basis is decidedly limited. It is not sufficient, for example, to say that we should eat more lettuce in March or April; if any large quantity is to be eaten it must be possible to sell lettuce during that period at a price which renders its purchase possible by members of the lower-income groups, and this is impossible if the grower is to obtain a profit on his product. Vegetables of the luxury and semi-luxury type, produced out of season in this country, can, as a result of their high cost of production, be purchased only by a limited group of consumers who provide a market that is soon supplied.

Soil and Market.—The profitable production of market garden crops on the 3-5 acre holding is at present prices impossible on any but the most fertile land; it is doubtful whether proximity to market is capable of offsetting the productiveness of the lands of Lincolnshire, assisted by cheap transport and the benefit of large-scale production. That vegetable production is concentrated in certain areas is a matter of economics rather than of accident, and, on account of the various advantages of soil and climate enjoyed by the main producing districts, they are likely, over a period, to survive competition from other areas. Cornwall, by reason of the mildness of its climate, will maintain its supremacy in broccoli growing for three months of the year, while the south coast will continue to supply the earliest strawberries. Changes in price or large-scale competition from within or outside the district may compel an amalgamation of holdings in the Vale of Evesham, but the fine nature of the soil and the temperate climate, and the fact that the land is suitable for both vegetable and fruit production, will always give it a certain supremacy as a producing area. Moreover, the production of the luxury vegetable under glass will tend to develop in certain areas as the supply of horse manure, water, and sunshine are limiting factors.

In theory, there would appear to be strong arguments in favour of establishing market garden holdings in the neighbourhood of large towns, where they have access to a good retail market. In practice, however, the high cost of land in urban areas, the difficulty of obtaining land of suitable quality, and the risk of disturbance as a result of building development, are likely to prove unsurmountable difficulties.

Given a suitable soil and climate in proximity to a large population, the success of a small market garden holding would appear to be largely influenced by the type of population served. This fact was admirably illustrated in Surrey, where there were two market garden schemes, one in the Woodcote Estate, in the neighbourhood of Purley, and the other at Walton-on-Thames. The former estate comprised 317 acres occupied by 80 tenants, mainly market gardeners and poultry keepers. It was adjacent to Purley, Croydon, Carshalton, Banstead and Woodmansterne, inhabited by well-to-do London business men who were prepared to pay for quality and freshness. The wealth and rate of development of the district can be gathered from the fact that, while the estate was bought in 1920 for £23,000,[1] its present value as building land is approximately £230,000. In this case the smallholders retailed their produce locally and appeared very successful. Some idea of the type and diversification of cropping may be gathered from the following list of crops noted on a 1½-acre holding: Potatoes, runner beans, turnips, carrots, parsnips, peas, beetroot, raspberries, cabbage, savoys, cauliflower, broccoli, Brussels sprouts, onions, wallflowers, marigolds, scabious, pyrethrums, asters, Michaelmas daisies, sweet-williams, lavender, heuchera, golden rod, cornflowers and marguerites.

About twelve miles away, on the Walton-on-Thames estate, which was situated in a poorer district, the inhabitants were interested in cheapness rather than quality, and the smallholders were unable to obtain a local market for their produce in competition with cheap supplies sent from Covent Garden. As a result they were badly off.

The position of the Woodcote Estate is, however, exceptional, and it is a question of very doubtful economics to maintain in smallholdings for the support of eighty families land worth nearly a quarter of a million pounds.

During the course of the investigation certain market garden holdings were visited on the outskirts of Nuneaton, Rugby and Coventry, and in each case the occupiers were finding it increasingly difficult to compete with Lincolnshire grown produce and with the street hawker buying on the wholesale market. This condition also exists in the neighbourhood of Birmingham, Manchester and Leeds. Vegetable production in the midlands and north is further handicapped by the lateness of the growing season; the crops come into the market at the same time as the bulk of the produce from the main producing areas in the south, and average prices are therefore low.

[1] Major Harding, Land Agent, Surrey County Council.

Canning.—The possibilities of expanding the production of vegetables in conjunction with the canning industry has to be considered. From the evidence available the canning industry in this country does not at the moment seem capable of further expansion. The following is an extract from the Chairman's speech at the Annual Meeting of Foster Clark Ltd., December 1934 [1]:—

"I regret to say that the canning department made no contribution to profits. Competition is still particularly keen, a considerable part of the national output of English fruit and vegetables having been sold below cost of production. The unfortunate position is partly due to the extravagant ideas that were prevalent regarding profits to be made in this industry, which led to the opening of many new canneries, with consequent over-production and unremunerative prices."

It may also be noted that while in January 1932 the shares of the National Canning Company, which is the most important group in the industry, stood at 45s., they had in June 1935 fallen to 22s., in spite of a general rise in the stock market.

At the same time the prices paid to growers for canning crops have fallen considerably. In 1933, Lincolnshire growers grew peas on contract for the canneries at 17s. per cwt.; in 1934 the contract price was 10s. to 12s. per cwt. In 1933 the canning factories were important buyers of plums in the Evesham Valley, but in 1934 very few plums were bought, as approximately half the 1933 plum pack was still unsold. When discussing the matter, growers generally stated that a canning contract was highly satisfactory to the person who received it, but that the amount of produce taken by the factories was negligible. It was also stated that the canning of asparagus and peas had tended to spoil the very early market for these vegetables, as hotels and restaurants, which were previously the best customers, carried on with the tinned article until the price fell to a certain level. Moreover, the canning factory buys only first-quality produce, which generally finds a good price on the open market, and is therefore of little value in absorbing surplus or second-quality produce.

Retail Prices.—It is frequently suggested that the margin between the farm and retail prices of fruit and vegetables is unnecessarily wide, and that, with more reasonable distribution charges, their consumption could be increased. It is held that the retailer

[1] *Times*, 13th December 1934.

prefers to operate on a small turnover and a relatively large profit margin, rather than by reducing prices, to secure an equal, or possibly larger, return from a bigger turnover. In support of this fact it is pointed out that in many cases the retail price of vegetables is often four or five times as great as the price paid to the grower.

It is therefore necessary to obtain some information of the present conditions of retailing fruit and vegetables, with a view to ascertaining whether, in fact, retailers make excessive profits.

It was stated in the Linlithgow Report (1924) that, in dealing with commodities such as vegetables which are cheap in relation to their bulk, the costs of transport, handling and delivery must be a predominant factor in distributive costs, and this appears even more true to-day, when vegetable prices are at a considerably lower level than in 1924. This point is well illustrated by the "Study on the Cost of growing Broccoli in Devon and Cornwall," by J. J. Macgregor of Seale Hayne Agricultural College. It was found that the average cost of growing an acre of broccoli was approximately £21; the cost of preparation for market—cutting, grading, packing crates, wire labels, etc.—was £15. 15s., and the cost of transport and marketing on the wholesale market was £28. 13s., of which railway charges represented £16. Therefore a total cost of £66 had been incurred when an acre of broccoli reached Covent Garden; of this sum, 32 per cent. represented the cost of growing the crop, 21 per cent. the cost of picking, grading, etc., while the remaining 47 per cent. represented the cost of transport and commission.

It is evident, moreover, that, as distributive costs have remained unaltered, only a limited fall can occur in retail prices in response to a fall in growers' prices, and that, as wholesale or farm prices decline, the retailers' margin will increase as a percentage of retail price, although the margin itself is unchanged. There are further reasons why the margin between retail and wholesale prices is likely to remain relatively large. Of these, the most important appear to be (*a*) the loss due to re-selection of faulty or ungraded produce; (*b*) the large amount of often expensive service demanded by the consumer; and (*c*) the risk of bad debts—a risk which has increased considerably during the recent depression.

It would appear that, in refusing to grade his produce, the grower is to a certain extent responsible for his present position. Graded produce may or may not result in the increased consumption of fruit and vegetables, but the retailer is prepared to pay a higher price for the graded article of guaranteed quality, as it is more economical to handle. The lack of care in the preparation of vege-

tables for market was apparent, both at Covent Garden and at the wholesale markets at Pershore and Evesham. Such a policy is short-sighted, as it entails payment of carriage and cost of picking, crates, etc., on vegetables (sometimes a quarter of the total consignment) which are thrown away on re-selection by the wholesaler or retailer. Indeed, it would appear that the vegetable producers' policy in a period of over-production should be to maintain price by sending only the "cream" of their produce to market and by allowing the inferior quality to remain on the fields.

The amount of service demanded by the consumer has a considerable effect on the costs of retailing, and therefore on the retail price. A shop in a wealthy district, paying high rates and taxes, stocking carefully graded produce and delivering it to the customers' houses in response to a telephone call, requires a higher working margin than a shop doing a cash and carry trade in a working-class street, or than a coster's barrow. In this respect it should be noted that as a result of unemployment in conjunction with low vegetable prices at the wholesale market, a considerable increase has occurred in the numbers of hawkers of fruit and vegetables in the large towns. While certain of these hawkers maintain a regular round with a "mixed" barrow, others operate on the "bargain of the day" principle. During the last autumn, the latter group were buying runner beans on the Birmingham market at 9d. per pot of 40 lbs., and retailing them at 1d. per lb. or 3 lbs. for 2d. In this respect they may be said to perform a useful function in distributing, at a low price, fruit and vegetables which would otherwise be wasted. Moreover, during the past few years, vegetables have been sold from costers' barrows in the industrial towns of the north and midlands at a price which, if received by the grower, would not have covered his costs.

There are three factors which safeguard both consumer and grower against exploitation by the retailers. They are (*a*) the small amount of capital required to become a greengrocer, (*b*) the "green" market in various large towns, and (*c*) the coster's barrow. While retailers charging high margins exist, they exist largely "by reason of a specific demand on the part of the public for services which, however convenient and agreeable, are not always necessary"; there are plenty of retailers supplying fruit and vegetables at moderate prices if the consumer will take the trouble to discriminate and find them.

The costs of distribution of vegetables and fruit are possibly higher than need be. Inefficiency occurs in at least two directions:

(*a*) in the lack of co-operation in grading and transport on the part of the growers, and (*b*) in the fact that a large number of small distributive units necessitates unnecessary high overhead charges. Co-operation among growers may be obtainable, but it is doubtful if anything short of a compulsory reorganisation of the retail trade into larger and more efficient units would substantially reduce distributive costs.

CHAPTER VII

PIG AND POULTRY PRODUCTION

A. Pig Production.

Imports.—The imports of bacon, hams and fresh pork consigned to the United Kingdom in 1933, together with their country of origin, are given below:

TABLE I

Imports of Pig Meat into the United Kingdom, 1933[1]

Country of Origin	Bacon		Hams		Pork	
	Quantity	Value	Quantity	Value	Quantity	Value
	Cwts.	£	Cwts.	£	Cwts.	£
Lithuania .	415,526	1,201,681	..	..	..	..
Sweden .	402,634	1,332,157	..	..	..	..
Denmark .	5,524,497	19,123,933	..	..	..	..
Poland .	783,758	2,293,116	74,055	246,219	..	..
Netherlands	871,950	2,678,234	..	..	..	..
United States of America	62,931	170,964	564,048	2,004,497	..	..
Irish Free State .	204,303	612,552	20,206	89,286	194,695	498,634
Canada .	506,113	1,599,718	180,639	657,842	..	..
Other Countries . .	313,221	922,152	30,535	69,364	..	..
Total .	9,084,933	29,934,507	869,483	3,067,208	194,695	498,634

In addition to the above quantities, approximately £2½ million worth of frozen, tinned and salt pork was imported. From the above table it will be seen that imports of pig products in 1933 amounted to £33½ million. There would appear, therefore (in the event of import restrictions being applied to pig products), to be ample opportunity for increasing pig production in this country.

It is a criterion of the success of such a policy that production in this country should be as efficient as in the exporting countries. It is therefore necessary to ascertain whether bacon pigs can be produced in this country as effectively and cheaply as by our competitors, and, if so, on what type of holding pig production is most likely to succeed.

Cost Comparisons.—In this respect it will be sufficient if we

[1] *Trade and Navigation Accounts*, 1933. H.M. Stationery Office.

consider the case of Denmark, from whom we receive over two-thirds of our bacon imports, and which in point of climate and situation is most similar to Britain.

At the outset it must be admitted that the Danish pig-keeper is very much more efficient than the English farmer. Mr Sorensen, Agricultural Adviser to the Danish Government, in December 1934, said [1]: "At the present level of prices, bacon pig production in Denmark is very profitable. If, however, quota restrictions force a further reduction in the pig population, the result must seriously affect the mixed farming system of Denmark. It will make it impossible for many farmers to dispose of the skimmed milk they receive daily from the dairy factory, and in the medium-sized and large farms there will be more home-grown grain that can be fed to pigs and other livestock."

As the above statement was expressed at a time when the English Pig Marketing Board was experiencing considerable difficulty in securing sufficient contracts to maintain bacon production, on the ground that the price offered was unsatisfactory, there must be large differences in production costs between the two countries.

Where do these differences lie? Why between 1881 and 1931 has the pig population of Denmark increased from 567,000 to 5,435,000,[1] while during the same period the number of pigs in England (apart from cyclical fluctuation) has remained practically constant? The main reason lies in the superior organisation and very much greater technical efficiency of the Danish farmer. During the period, as a result of a well-organised system of breeding and feeding, he has learned to produce a uniform pig of the type suitable for the English market. He has made every effort to lower production costs by the selection of prolific strains, by expenditure on modern housing and equipment and by the use of properly balanced rations. As a result of these efforts, which have entailed a quarter of a century's labour, the Danish farmer is at the moment producing bacon pigs at approximately one-quarter less cost than the producer in this country. If we consider the two most significant factors influencing the cost of a bacon pig—namely (1) the number of pigs marketed per sow per annum, and (2) the weight of meal consumed per lb. live weight gain—the greater technical efficiency of the Dane is apparent. According to official records, 15 pigs are marketed per sow per annum in Denmark compared with an average of between 10-11 [2] in Britain, while meal

[1] *Proceedings of the Agricultural Economics Society*, December 1934.
[2] *Farm Economist*, April 1933. Agr. Econ. Res. Inst., Oxford.

consumption in the former country has been reduced to 4 lbs. per lb. live weight gain compared with an average, as far as it can be determined, of not less than 5 lbs.[1] in this country.

It will be observed that the advantages of the Danish farmer so far enumerated are largely matters of education. He has a further advantage which assists his competition with producers in this country, *i.e.* the fact that the Danish industry is based on a mixed arable husbandry, and that large quantities of skimmed milk are available for pig-feeding. There is indeed a Danish saying to the effect that "the pig hangs on the cow's tail." The meaning is obvious. Increasing butter production has led to a more ample supply of skimmed milk for pig-feeding, and so the bacon industry and the dairy industry developed side by side.

During the last two generations the Danish farmer has grown as much food as possible for his livestock, and in the majority of the medium-sized and small farms in Denmark only a very small amount of home-grown crops leaves the farm.[2] Nevertheless, as a result of the large increase in the number of livestock, it has been necessary to import considerable quantities of foodstuffs.

Under the influence of a livestock policy, the yields of the various crops have shown great increase. It has been calculated that since 1879 the total production of crops has been more than trebled. This result has been due mainly to a more intensive cultivation of the land, to the growing of the very best varieties and strains of farm crops, and to a heavier fertilising of the soil. In view of the dangers to which settlement on the 3 to 5 acre type of holding would be exposed in the event of a sudden rise in the world price of cereals, it is important to obtain some indication of the extent to which the Danish farmer is independent of this factor. An approximate figure can be obtained by ascertaining the ratio of home produced to imported crops.

It has been calculated [2] that in 1933 the total production of farm crops in Denmark, converted to a common unit on the basis of food value—one ton of barley being taken as a unit basis—was 10·52 million units of crops. Adopting the value of £6 a ton for barley, the total value of home-produced crops would therefore be somewhere in a region of £63 million. As £12·4 million worth of foreign cereals was imported in 1933, the ratio of home-produced food to imported approximates 5 : 1. In addition, the large quan-

[1] *East Anglian Pig Recording Scheme*, Third Report, 1930. School of Agriculture, Cambridge.

[2] Sorenson, *Proceedings of the Agricultural Economics Society*, December 1934.

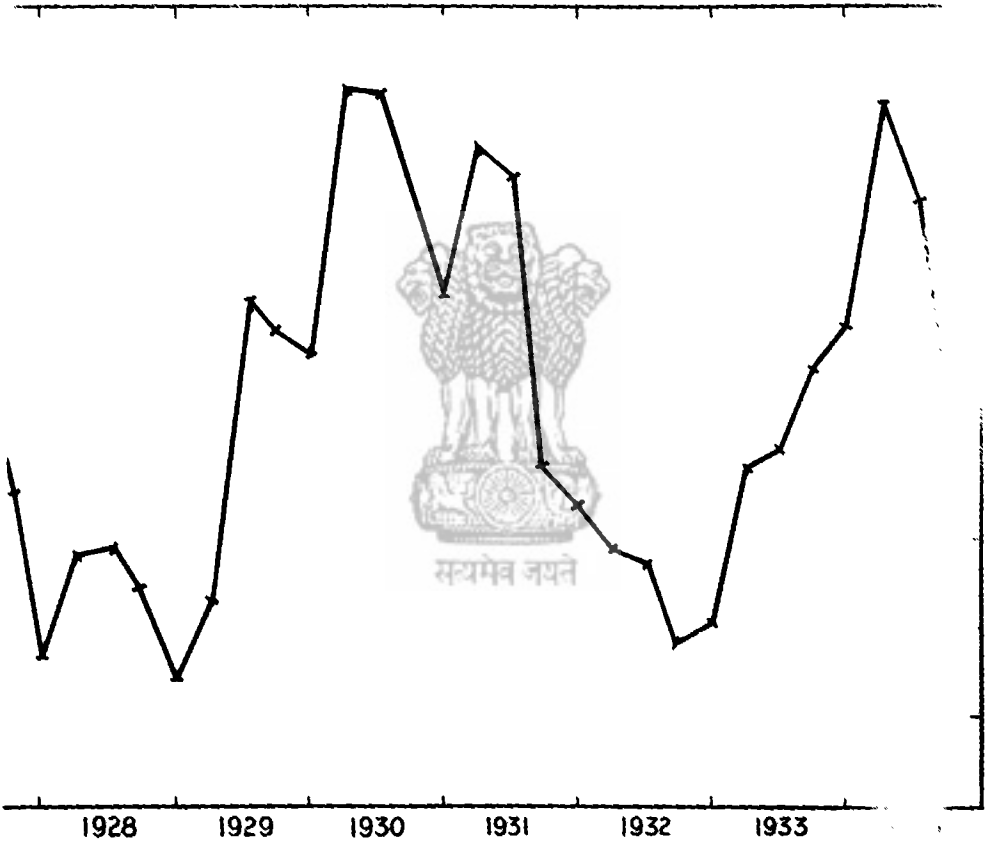
tities of skimmed milk available for pig-feeding would still further increase the ratio in favour of home production. In 1933, therefore, when exports of butter, pig meat and eggs amounted to 150,714 tons, 294,117 tons and 8,919,000 great hundreds respectively, fluctuation in the world price of cereals could only affect a limited fraction of the farmers' feeding costs. The Danish farmer, therefore, produces his milk, pigs and his eggs on a system of mixed arable farming and not as a specialist enterprise entirely dependent on purchased materials.

In Denmark pigs have been kept to utilise the skimmed milk of the dairy industry, and there has been in this country a tendency for pig production to be concentrated in certain areas with a view to utilising by-products. In East Anglia, which accounts for about one-fifth of the total pig population of England, they are kept to use up "tail" cereals and waste potatoes. In the dairying districts of Cornwall and Cheshire, pigs, as in Denmark, utilise surplus and skimmed milk and whey, while in Kent they act as scavengers in the orchards.

Specialist v. *General Production.*—In pig production, therefore, as in vegetable production, the question arises whether the 3-5 acre holding, entirely dependent on purchased feeding stuffs, can successfully compete with the large farmer or with the smallholder of 30-50 acres, who are both in the position to utilise certain by-products of arable farming. Given equal efficiency in management, there is little doubt that the lower cost scale of the bigger men would enable them to undersell the small producer, but there is sufficient evidence to suggest that at the present moment the mixed arable pig producer in Britain is far from efficient. Provided the smallholder on 3-5 acres obtains good stock, adopts scientific methods of management and feeding, and can obtain a supply of cheap feeding stuffs, he should be moderately successful. His main dangers, however, lie in the fact that he is wholly dependent on purchased feeding stuffs, and that, as his income is derived from a single commodity, his organisation is unsound. A rise in the world price of cereals of a few pounds a ton (bacon pig prices remaining constant) may bankrupt a producer of this type in a couple of years. This can be illustrated concisely as follows :—

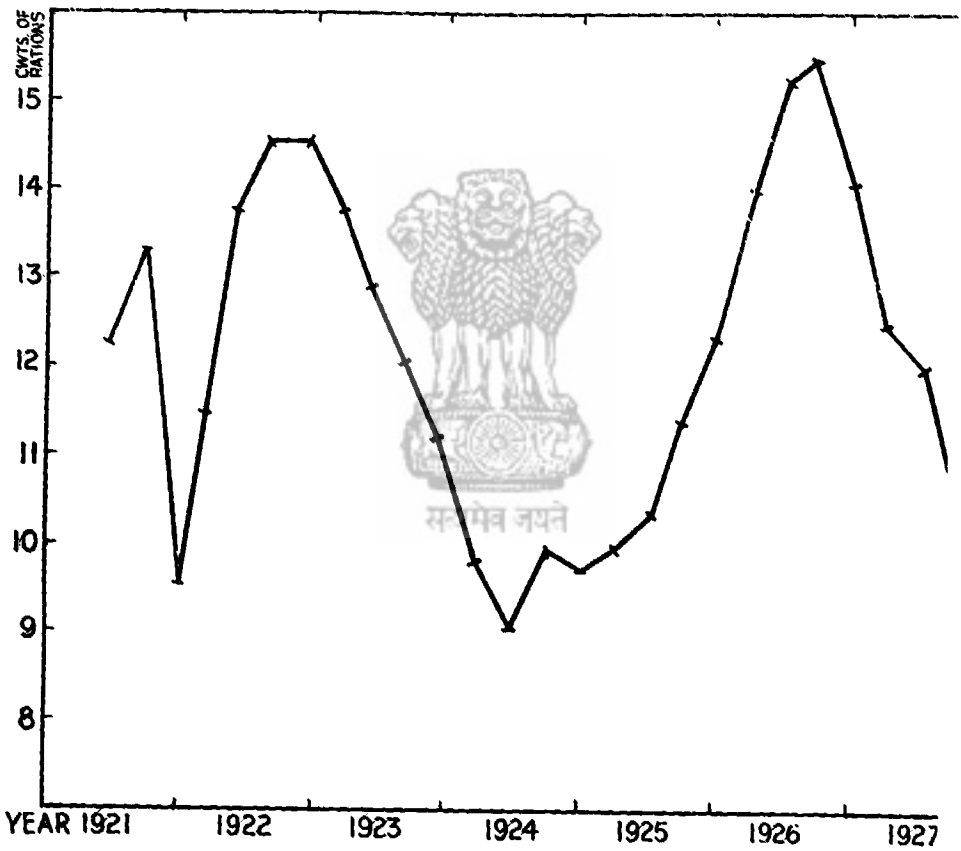
A bacon pig of 200 lb., under first-class conditions of feeding and management, consumes approximately 6¼ cwt. of meal from weaning to slaughter, while its share of the sow's maintenance for six months can be estimated at a further 2 cwt. Directly or in-

RATION : 5. Parts Middlings (Coarse British).
7. do. Barley Meal.
6. do. Maize.
1. do. Fish Meal.
1. do. Soya Bean Cake (representing Soya Bean Meal).



QUARTERLY PURCHASING POWER OF A 7½ SCORE DEAD-WEIGH BACON PIG (2ND QUALITY).

IN CWTS. OF A STANDARD FEEDING RATION, THE PRICE OF WHICH IS LAGGED ONE-QUARTER BEHIND THE PRICE OF BACON PIG.



directly, therefore, the 200 lb. bacon pig has required 8¼ cwt. of meal. Adopting this figure, every rise of 20s. per ton in the price of pig meal adds 8s. 3d. to the production cost of the pig. If therefore the price of feeding stuffs should rise from £6. 10s. to £8. 10s. per ton, while the price of bacon pigs remained constant, and if the producer had, at the former price of his ration, obtained a profit of 10s. a pig, this profit margin as a result of the rise in the price of meal, other things being equal, will be replaced by a loss of 6s. 6d.

Moreover, as a result of his much greater dependence on purchased feeding stuffs, the effect of rising feed prices will be felt more quickly by the specialist than by the mixed arable producer, utilising the unsaleable by-products of other crops. Further, the mixed arable farmer is in a position to give up pig-keeping and concentrate on a more profitable line of production, while the specialist on the other hand must continue or find himself without occupation.

That this danger has in the past been very real is shown by the graph opposite, where the quarterly purchasing power of a 7½ score bacon pig has been expressed in terms of a standard pig-feeding ration over a period of years.

It will be seen that over the period the purchasing power of a bacon pig in terms of a balanced ration ranged from 8½ cwt. to 15½ cwt. When it is realised that meal costs represent approximately 75 per cent. of total production costs, the variation in the profitability of pig-keeping over the period will be appreciated.

The operations of the Pig Marketing Board in stabilising price and linking it with the price of feeding stuffs will, if successful, level out the four-year cycle of production, and place the small specialist producer on a more secure footing. His success, however, will depend on the fact that the average technique of pig production in this country is probably lower than in any other department of livestock or of crops. And in the event of scientific principles of production being adopted on the large farms, he is even less likely to prove successful.

In conclusion, the conditions under which pig production in the 3-5 acre holding will be possible are--

(*a*) that the Pig Marketing Board should be successful in linking the price of bacon pigs to the price of feeding stuffs,

(*b*) that the smallholder should keep only sound and prolific stock of the required type,

(*c*) that his methods of feeding and management should be up-to-date,

(*d*) that his production technique should always be ahead of that of the mixed arable farmer,

(*e*) that he should be able to obtain a supply of cheap cereal and protein feed,

(*f*) that he should be insured against loss by epidemic disease.

In connection with (*e*) it is worth considering the organisation of pig holdings near creameries with a view to utilising skimmed milk, or in the neighbourhood of large towns where hotel and bakery waste can be obtained at low cost. A large number of holdings of this type are to be found around London and Edinburgh; in the case of one holding of between 4-5 acres visited near Edinburgh, 25 sows and their offspring were successfully fed and fattened on a cooked mixture of equal parts of hotel scraps, bakery waste, and a balanced meal ration.

It will require a great deal of tuition, a certain amount of compulsion, and a considerable time to wean the pig-keeper in this country from the traditional haphazard methods of production he has in most cases so far followed, and to bring his production up to Danish standards. During the period of reorganisation, the consumer in this country will be compelled to pay more for his bacon than if it had been purchased abroad. If bacon production is to be stimulated in this country, therefore, it is essential that continuity of Government policy should be assured, particularly if production were concentrated on the smaller type of holding, necessarily dependent on the world price of feeding stuffs.

The Pig Marketing Board and its Effect.—As the expansion of pig production in this country is intimately linked with the success of the Pig Marketing Board, the progress of the Board and the extent to which its operations have so far affected consumers are considered below.

TABLE II

BACON SUPPLIES AND PRICES [1]

Supplies	1930	1932	1934
Home . . . (cwt.)	1,750,000	?	2,450,000
Imported . . . (cwt.)	9,191,000	11,391,000	7,740,000
Total .	10,941,000	?	10,190,000
Wholesale Prices.			
British (Wiltshire dried, per cwt.)	135/3	92/6	104/6
Danish (Sides, per cwt.) . .	107/3	71/6	103/9
Retail Prices.			
(Streaky, per lb.) . . .	1/4	10d.	1/1½

[1] *Economist*, 1st December 1934, p. 1024.

From the preceding table it will be observed that, compared with 1930, imports in 1932 rose from 9·19 to 11·39 million cwt.; in 1932 home supplies are stated to have been greater than in 1930, so that total supplies had increased. As a result of the quota agreements, imported supplies in 1934 fell to 7·74 million cwt., while in response to the "contract price" home supplies increased to 2·45 million cwt. In 1934, therefore, total supplies were some 3 million cwt. less than in 1932.

The wholesale price of Danish sides fell from 139s. 6d. in August 1929 to 69s. in January 1933, and then rose to 102s. by October 1934—an increase of nearly 50 per cent. Between the two latter dates, the price of British sides rose from 87s. 6d. to 100s. 6d., a rise of approximately 15 per cent., while in the same period retail prices rose from 10½d. to 1s. 2½d. or an increase of 40 per cent. It therefore appears that as a result of the present difference in the quality of Danish and British bacon they were to a considerable extent non-competitive: that is to say, the consumer had reacted to restriction by paying more for Danish bacon where he could afford it and eating less where he could not, and the main result of restriction had been to force up the price of Danish bacon so that the margin between British and Danish prices is now practically extinguished. As retail prices have risen steeply, the standard of living of the consumer has been definitely impaired; this is shown by the fact that 3 million cwt. less bacon were consumed during 1934 than in 1932. Therefore, as the price of English bacon has risen but slightly during the period, the gain to the British farmer has not been commensurate with that of the Danish or with the harm done to the customer, and the Pig Marketing Board will require to pay more attention to the organisation of efficient production and less to the control of price if their policy is to be justified to the general public.

B. Poultry and Eggs.

General.—The annual production of the poultry industry in this country is valued at £25,000,000; about two-thirds of which represents eggs and one-third table poultry. In 1933 imports of eggs in shell were valued at £7,295,000, while the total imports of poultry and eggs was approximately £10,000,000.[1]

Poultry enterprises of the type described as "specialist," in the sense that they are self-contained and are not linked up with other enterprises, contribute between 20 and 25 per cent. of the

[1] Report of the Reorganisation Commission on Eggs and Poultry, 1935.

total home egg supplies, 75 to 80 per cent. being produced by the mixed farm. In the course of the investigation a large number of poultry holdings were visited. These were mainly of the intensive or semi-intensive type, and carried anything from 800-3000 birds on 3 to 9 acres. In Lancashire, which has the highest population of poultry in England—1096 fowls per 100 acres of crops and grass— a large number of these holdings had been established by the County Council, and Mr Broughton, who was mainly responsible for their development, was extremely sanguine as to their future. Few complaints were heard from the men visited, who were of the opinion that, although the industry was not as popular as a few years ago, at the present level of prices for feeding stuffs and eggs they could make a living. There was, however, a certain amount of anxiety as to the possibility of a rise in the price of feeding stuffs or a further fall in the price of eggs, as the present margin of profit was small. Probably the most immediate anxiety, however, concerned the increasingly high incidence of disease in the area which made it practically impossible to obtain reliable replacement stock locally. As a result the Lancashire poultry keepers are rearing their own stock, a system which is recognised as unsatisfactory.

Egg prices in Lancashire are "declared" by a committee at the Garstang and Preston markets each day the markets are held, and those prices act as a guide to producers in the county. If the Price Committee misjudges the market conditions, the actual prices paid may be above or below the declared price.

The poultry are kept in slatted floored houses, accommodating from 70 to 100 hens. Houses are generally fitted with electricity, which is switched on in the afternoon till 7.30 in the evening and again at 4.45 in the morning until full light.

Some idea of the progress which has been made, where the holding has remained free from disease, is shown by the following example. A bricklayer's labourer took up a holding seven years ago with 40 hens, 250 chicks, and the necessary equipment. He had no further capital, but carried on with his work and gradually built up his stock. Three years ago he had 600 hens, and became a full-time poultry keeper. He now has 1400 birds on 2½ acres, employs one boy, and is worth well over £1000.

In Lancashire, however, an increasingly large annual toll is being taken by disease, and it appears doubtful whether the 3-4 acre intensive poultry unit is likely to endure unless some method of control is found. A similar increase in disease is conspicuous in Surrey which, after Lancashire and Cheshire, carries the highest

fowl population per acre, and in that county poultry keepers, where possible, are obtaining more land and adopting the free range or ark method. In Scotland, the poultry holdings visited in Midlothian, Perth and Fife appear successful. In these districts, however, as the result of a good local demand, the price of eggs appeared in January 1934 to be some 3d. a dozen higher than around Cambridge. Some apprehension was felt on the "specialist" holdings as to the possibility of a further rise in the cost of feeding stuffs, but the losses through disease were not so great as in England, because the holdings were more recently established.

Disease.—This question of disease, particularly in the 3-4 acre intensive type of holding, is extremely important. The Report of the Reorganisation Commission on Poultry and Eggs states: "We have been deeply impressed by the evidence we have heard as to the losses from disease suffered by the poultry industry and especially as to the increase in mortality from disease during the past few years." This increase in the rate of mortality is shown by the following figures, relating to two of the best known laying trials.

TABLE III[1]

Trial Year	Percentage Mortality	
	No. 1	No. 2
1926-27 . .	4·35	6·65
1927-28 . .	5·57	7·27
1928-29 . .	6·81	7·08
1929-30 . .	7·77	8·76
1930-31 . .	7·87	10·67
1931-32 . .	10·78	15·46
1932-33 . .	11·22	14·80
1933-34 . .	13·47	16·35

It was also stated in this report that at other laying trials figures are generally comparable and sometimes even worse, while in one case the mortality rose as high as 20 per cent. Figures are quoted to show that the annual losses of adult stock over a number of representative farms in the midlands and north of England amounted to 12·84 and 16·45 per cent. respectively in 1932-33.

Specialist v. *General Production.*—In considering the development of the small or intensive poultry holding, the profits made on holdings of this type during the past few years are less important

[1] Report of the Reorganisation Commission on Eggs and Poultry, 1935, p. 136.

than the profits likely to be made in the future, and these may well disappear if there is (*a*) a rise in cereal prices, (*b*) a fall in egg prices, or (*c*) a general increase in loss from disease.

The graph opposite illustrates the price trend of (1) poultry feed, (2) eggs, (3) table poultry, from 1920-33, together with (4) the number of fowls on holdings of more than one acre in those years.

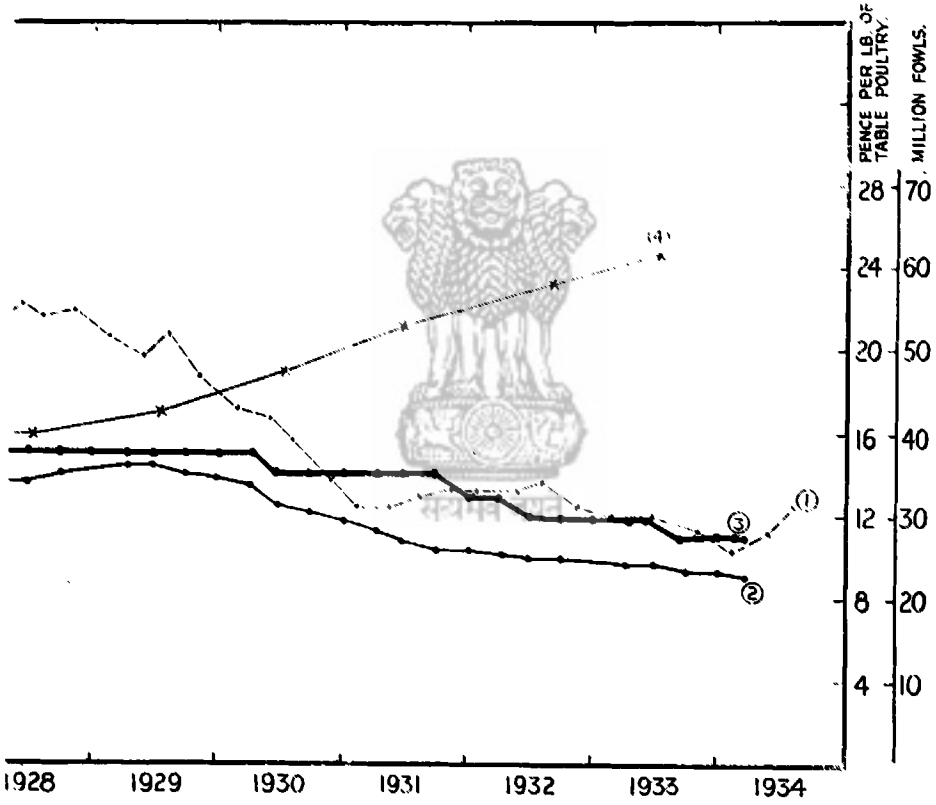
Examining these trends, it is evident that the rapid expansion of the poultry industry during the last six years has been in large part due to the fact that feeding stuffs prices have fallen more rapidly than those of eggs or table poultry. While profits at a lower price have been made possible by considerable advance in production technique, by an increase in the annual output of eggs per hen, and by levelling out the production season, the most important factor has been the downward trend of cereal prices. In the event of an upward movement in world cereal prices without a concomitant increase in the price of eggs, poultry keeping on the holding dependent on purchased feeding stuffs is liable to failure.

In the section on vegetables, the rapidity with which the home-produced supply overtook demand when vegetable imports were restricted has been indicated. How far is this likely to occur in egg production if similar restriction is applied ? Since 1924, egg production in this country has been doubled and now represents 70 per cent. of total supplies. If production continues to expand at the same absolute rate, we would be in a position to supply our present requirements of eggs by 1944, and in the event of import restriction on foreign eggs, the rate of expansion will be more rapid. It has been remarked that specialist poultry holdings contribute only 25 per cent. of the total home egg supplies, 75 to 80 per cent. being produced on general farms. When total egg supplies are produced in this country, and no further imports can be kept out in order to maintain price, there will still be competition for the home market between farm and specialist producers ; on a falling price level, production on the general farm is most likely to survive as a result of a lower scale of costs obtained through the utilisation of by-products, and through the greater freedom from disease which results from the adoption of extensive rather than intensive methods.

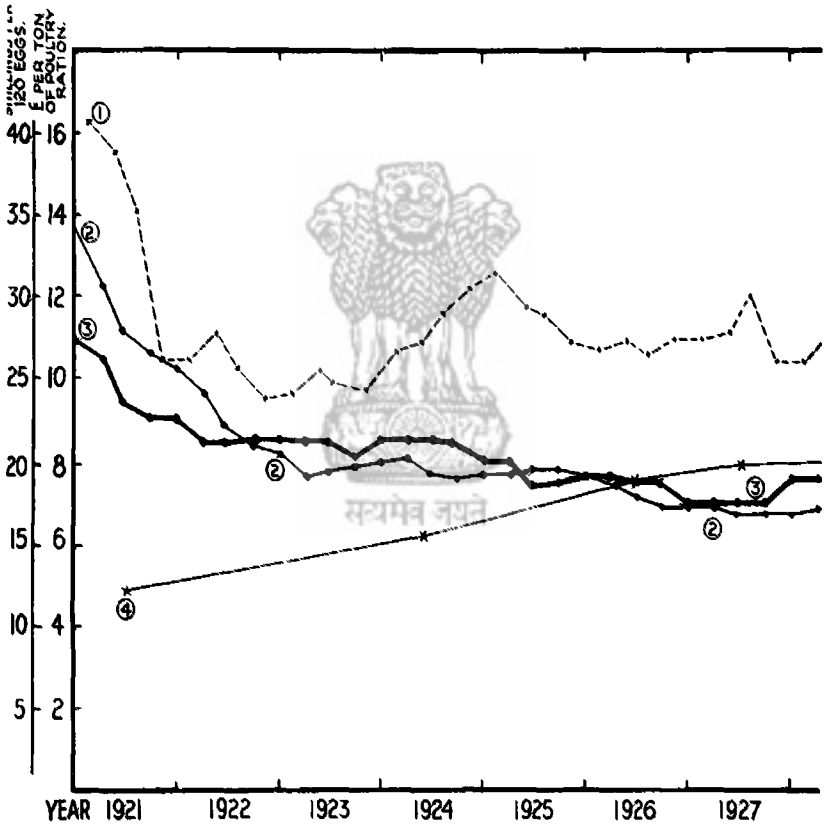
It is at this point that the specialist producer will be particularly sensitive to a rise in the price of feeding stuffs, while the farmer, utilising his farm crops together with stubble gleanings, stackyard and tail corn, will not be seriously affected.

Price in £ of 1 ton of Poultry Ration.
10 cwt. Wheat (British).
2 cwt. Bran (British).
2 cwt. Middlings Coarse (British).
5 cwt. Maize Meal.
1 cwt. Fish Meal.

2. Price in shillings per 120 of English Eggs. (4 quarterly moving average), Ordinary No. 2.
3. Price in pence per lb. of Table Poultry. (4 quarterly moving average), Second quality.
4. Number of Fowls in England and Wales, in millions.



QUARTERLY PRICES OF POULTRY FEED, TABLE POULTRY AND EGGS, 1921-1934.



CHAPTER VIII

THE ECONOMICS OF SMALLHOLDINGS

In approaching the problem of Land Settlement it has been necessary to lay down certain principles. It has been assumed that a programme of settlement cannot be justified unless the holdings established are capable of surviving for a considerable period of years, and during that time providing a reasonable return to the occupiers. It is therefore essential that their organisation should enable them as far as possible to withstand sudden changes in economic conditions. To ensure this stability, the organisation of the holding must be sufficiently flexible to be successfully adjusted to changes in the relative price levels of requirements and produce.

Flexibility of Organisation. So far we have examined existing conditions in those enterprises which are considered suitable for the smallholder. We have at the same time attempted to indicate the extent and direction of competition between the specialist or semi-specialist producer and the general farmer. From the evidence available we have been forced to the conclusion that the small 3-5 acre holding, under free economic conditions, is not a satisfactory unit of settlement. Its weakness arises from too great a dependence on purchased feeding stuffs and from the fact that it must obtain its income from a very limited group of commodities. As a result it is handicapped by a rigidity of organisation which renders it particularly liable to failure in competition with the lower-cost scale of the general farmer.

In contrast to this lack of adjustment in the 3-5 acre holding, the greater flexibility of organisation in the 20-50 acre mixed holding is shown in the following table, which gives the amount and distribution of gross income of approximately 200 smallholders of this type in East Anglia for the two years 1931 and 1933.[1]

It will be seen in Table I that gross income on the 20-50 acre holding is derived from ten main sources, roughly three-quarters being obtained from sales of livestock and livestock produce, and one-quarter from sales of crops. Comparing the figures for gross income in 1931 with those in 1933, it is apparent that during the period a

[1] Reports Nos. 19, 21 and 22, Farm Economics Branch, School of Agriculture, Cambridge.

considerable shift has occurred in the relative importance of the sources from which the holder derives his income. In the two years, the income from horned stock has fallen by 35 per cent., that from other crops by 68 per cent., while the income from wheat, as a result of the Wheat Act, has increased by 275 per cent. and that from sugar beet by 179 per cent.

TABLE I

DISTRIBUTION OF GROSS INCOME ON 201 SMALLHOLDINGS, 1931 AND 1933

	1931	1933
	£	£
Dairy Produce	107	106
Horned Stock	48	31
Pigs	70	86
Poultry and Eggs	84	74
Sheep and Wool	7	2
Wheat	12	45 [1]
Barley	21	23
Sugar Beet	14	39
Other Crops	41	13
Miscellaneous	9	8
Total	413	427
Drawings in kind	46	42
Gross Income	459	469

Below is shown the changes in output which these 201 smallholders have made in response to changes in price between the two crop years 1930-31 and 1932-33 :—

TABLE II

CHANGES IN OUTPUT ON 201 HOLDINGS OF 20-50 ACRES
CROP YEARS 1930-31 AND 1932-33

	1930-31			1932-33		
	Income from Sales, £	Price Index (1911-13 = 100)	Measure of Output Sold	Income from Sales, £	Price Index (1911-13 = 100)	Measure of Output Sold
Wheat	12	79	0·15	45 [1]	140 [2]	0·30
Barley	21	100	0·21	23	101 [3]	0·25
Sugar Beet	14	100 [4]	0·14	39	93·5 [4]	0·42
Dairy Produce	107	145·5	0·735	106	131	0·81
Horned Stock	48	126	0·38	31	103	0·30
Eggs and Poultry	84	131	0·64	74	112	0·66
Pigs	70	127	0·55	86	98	0·88

[1] Including quota payments of 20s. per quarter.
[2] Crop year 1931-32, including quota payments of 20s. per quarter.
[3] Crop year 1931-32.
[4] Base 1930-31 = 100.

	Percentage Change between 1930-31 and 1932-33	
	In Output Sold	In Price Index
Wheat	+ 100	+ 77 [1]
Barley	+ 19	+ 1 [1]
Sugar Beet	+ 200	6·5
Dairy Produce	+ 10	10
Horned Stock	− 21	18
Eggs and Poultry	− 3	15
Pigs	+ 60	23

The 100 per cent. increase in the amount of wheat sold, which occurred as a result of a 77 per cent. rise in price (including quota payments), is due to increased acreage, increased yield per acre, and to an increase in the proportion of the total production which was sold off the farm. The percentage of the total farm area under wheat increased from 11·6 to 16·4, while the percentage of the amount of wheat grown sold off the farm rose from 58 to 93. On the expenditure side, this has entailed the increased purchase of feeding stuffs—a tendency which can as easily be reversed if economic changes warrant it. It is worth noting that, if the price of feeding stuffs undergoes a sudden rise, the occupier of this type of holding is to a certain extent compensated by the additional price received for his cereal sales, or as alternatives, he can reduce his commitments in livestock and/or increase the proportion of home-grown feeding stuffs. Moreover, on a holding of this size, litter for stock is obtained as a by-product of the cereal crop, and the resultant manure increases the fertility of the soil; the poultry, with access to stubble and stackyard, consume grain that would otherwise be wasted, and as a result of their freer range are less liable to disease; the pigs consume waste potatoes, surplus or skimmed milk, and tail corn with little sale value.

The small "family" farm is superior to the more specialist type in another direction—in the capacity of the family to live off the holding. On such a farm the smallholder enjoys a cheap rent; he grows all the dairy produce, eggs and poultry, vegetables and fruit consumed by his family; he can cure his own bacon; he can buy

[1] Percentage change between price index in 1930-31 and 1931-32, the latter being the year by the price in which the acreage of wheat and barley grown in 1932-33 is most influenced.

Figures for incomes from sales from Reports No. 19, 21 and 22 of the Farm Economics Branch, School of Agriculture, Cambridge; price indices from the returns of the Ministry of Agriculture.

his household coal at a cheap rate with the steam coal used to thresh his crop, while he obtains firewood from the woods and spinneys. His drawings in kind often amount, at retail value, to well over £1 per week. This factor is particularly important during a period of depression which the small family farmer can survive better than any other agricultural unit. His power of resistance is achieved partly as a result of the self-contained nature of his holding and partly by the fact that his cash outlay for wages and extraneous requirements are small, and can be temporarily reduced to a minimum.

Smallholdings versus *Large Farms*.—Although the small mixed arable holding is the most stable unit of agricultural production, it has certain disadvantages when compared with the larger farm.

It has been shown elsewhere [1] that the density of employment per acre is twice as great on holdings of 20 to 50 acres as on those ranging from 300 to 500 acres in size, so it appears that the rural population could be doubled by turning large farms into smallholdings. Before embarking on a policy of settlement, however, the comparative wage and interest paying capacity of these holdings must be considered.

Below are given the earnings per person employed in holdings between 20-50 acres and 300-500 acres in extent.

TABLE III

EARNINGS PER PERSON EMPLOYED PER ANNUM (INCLUDING OCCUPIER), 1932

Size of Farm (acres)	20-50	300-500
	£	£
With Wheat Quota Payments	83·9	97·4
Without ,, ,,	70·6	79·8
Number of Farms . .	201	106

It is clear from the above table that the large farms pay higher wages per person employed than smallholdings. This fact is supported by the following table, which gives the average wage available per worker per week on different sizes of farms in the Eastern Counties.

[1] "Some Aspects of Smallholdings in the Agricultural Structure," by A. W. Menzies-Kitchin, *The Economic Journal*, December 1934.

TABLE IV

EARNINGS PER PERSON EMPLOYED PER WEEK BY SIZE OF FARM, 1931-33 [1]

Size of Farm	Remuneration available per Worker (including Occupier) per Week
Acres	s. d.
20-50	26 11
50-100	29 2
100-150	33 10
150-300	34 4
Over 300	34 8
Weighted Average	32 5

The average family income on 201 smallholdings in 1931-32 was £91 and was composed as follows :—

TABLE V

FAMILY INCOME OF 201 SMALLHOLDERS, 1932

Acres	Farm Income	Drawings in Kind	Family Labour	Wheat Def. Payment	Family Income
	£	£	£	£	£
20-50	15	37	30	19	91

If we compare this financial position with that of the stockman or horsekeeper earning the statutory wage of approximately £95 a year, it is evident that the hired labourer was the better off, for the smallholder, after deducting interest on capital at 5 per cent. (£23) from his total personal income (£61), received only £38 as a net return for his own labour. It may be argued that, on a family income of £91 a year, the smallholder was in the stronger position, particularly as he was his own master and enjoyed secure employment. Such a contention, however, is open to the objection that this independence and security may be purchased at the cost of the excessive labour of the occupier and his family. Moreover, the introduction of an unemployment insurance scheme for agriculture is likely to place the hired agricultural worker in a more favourable position.

In the following table the average profit per farm on 660 East Anglian farms is expressed as a percentage of farm capital, after

[1] *Journal of Royal Statistical Society*, December 1934; R. McG. Carslaw.

allowing the occupier £2 a week for his own labour, or, on the larger farms, £4 a week for that portion of his time spent on management.

TABLE VI

AVERAGE RETURN ON FARM CAPITAL, BY SIZE OF FARM, 1932

Size of Group (acres)	26-50	51-75	75-100	101-125	126-150	151-200	201-250	251-300
Profit as a per cent. of Capital Invested	*a.* −1·3 *b.* −7·5	− 0·9 + 0·7	+3·0 +2·3	+6·4 +7·8	+4·0 +1·7	+3·6 +3·6	+13·0 + 7·3	+11·6 + 9·8
Number of Farms	*a.* 65 *b.* 64	62 63	49 48	37 43	27 39	36 44	12 33	16 28

a.—medium soils. *b.*—heavy soils.

It will be seen from the above figures that farm capital invested in holdings below 75 acres failed to obtain any return.

In order to indicate the effect on returns of an increase in the area of the holdings, the family incomes for holdings between 21-35 and 36-50 acres in size for the years 1932-33 are given below :—

TABLE VII

COMPARISON OF FAMILY INCOMES ON FARMS BETWEEN 21-35 ACRES AND 36-50 ACRES, 1932-33

Year	Size Group	Average Size	Farm Income	Drawings in Kind	Wheat Def. Payments	Family Labour	Total Family Income	No. of Farms
	Acres	Acres	£	£	£	£	£	
1932	21-35	27·68	− 3·85	35·96	10·99	26·99	84·19	65
	36-50	43·47	16·52	57·37	26·16	34·55	114·59	87
1933	21-35	28·29	21·20	40·35	15·97	30·0	107·75	56
	36-50	43·84	34·49	45·03	29·94	32·82	143·30	85

Thus an addition of 15 acres in area and of £160 in farm capital increased family income by just over £30 a year.

Certain Factors influencing the Success of Smallholdings. So far we have considered the effect of area on income. Within each size group, however, there is a wide range of soil and market conditions which (in themselves) may considerably influence farmers' returns. An attempt has therefore been made to isolate the influence of soil and market, and to investigate the factors which

make for the success of the small farms in the different areas. With this object in view, the 201 smallholdings have been grouped into nine major agricultural districts, each more or less homogeneous in soil type and marketing facilities, viz. : –

1. Central Norfolk loams.
2. Norfolk and Suffolk breck.
3. Central Suffolk loams.
4. South-east Suffolk and North-east Essex sands and gravels.
5. North Essex and South-west Suffolk boulder clays.
6. South Essex London clays.
7. South Hertfordshire.
8. South Cambridgeshire chalks.
9. Huntingdon and West Cambridge clays.

Composition of income in each of the nine districts is given in the following table :—

TABLE VIII

FAMILY INCOME, BY DISTRICTS, 1932

District No.	1	2	3	4	5	6	7	8	9
	£	£	£	£	£	£	£	£	£
Farm Income	4	24	45	11	40	88	83	52	26
Drawings in Kind	29	44	38	31	41	61	46	33	36
Deficiency Payments	20	10	28	11	34	11	8	20	13
Family Labour	19	21	33	14	47	47	41	42	16
Family Income	64	99	54	70	82	207	178	147	39
Average Size of Holdings (acres)	36	35	39	35	38	33	38	37	37
Number of Holdings	53	11	35	14	19	15	17	18	19

If we examine the above figures, wide variations in family incomes between districts are immediately apparent. Holdings in Districts 6, 7 and 8, for example, with family incomes of £207, £178 and £147, are highly prosperous. None of the other districts provides a family income of as much as £2 a week, while in the case of District 9 the average family income is only £39.

Our next step is to discover why these large variations in profitableness arise. Are they due, for example, to particularly fortunate conditions of soil and/or market, to the development of a particular type of organisation, to concentration on particular enterprises, or to a combination of any or all of these factors ?

It is generally held that smallholdings can succeed only on the

best land, or at least on land which is light and easily worked. While this generalisation is probably reasonably accurate, it is evidently not infallible. The group of smallholdings in South Essex (District 6) returns an average family income of £207, despite the fact that it is situated on some of the heaviest and most tenacious clay soil in England. On the other hand, in the equally heavy clay soils in District 9 (Huntingdon and West Cambridge) and District 5 (North Essex) the smallholdings have had a disastrous year. The success or failure of smallholdings on heavy soil, therefore, depends not so much on the nature of the soil as on the type of production followed. The successful holdings in South Essex have been built up, as a result of the demands of the London market, on enterprises which can be developed in a system of grass-land husbandry, viz. dairy products, poultry and eggs. The smallholder in Huntingdon and North Essex, in the absence of a local market, and perhaps through lack of capital and knowledge, has attempted to farm his holding on traditional arable lines. It may therefore be said that, although a light soil is both easier to work and provides greater scope for diversified cropping than a heavy soil, and is in this respect better fitted for Land Settlement, smallholdings can nevertheless be profitably established on heavy land, provided that it is properly drained, is capable of producing good pasture, and that there is a good local market for livestock and livestock products, or, alternatively, that such a market is introduced by co-operative settlement.

There are two other widely held beliefs in regard to smallholdings: (*a*) that they must be situated in the vicinity of large towns where the smallholder has an opportunity of direct contact with the consumer, (*b*) that they must have access to a retail milk market. While market plays a more important part than soil in shaping the destiny of a smallholdings scheme—as witness the triumph of market over the heavy clays in South Essex—it is evident that much could be done to compensate for the absence of a local market by the provision of co-operative agencies for the purpose of effecting economies in the sale and purchase of commodities. According to 1932 figures, the smallholder had to pay approximately 10 per cent. more for his feeding stuffs, and 20 per cent. more for his fertilisers than the large farmer, and although no measure was available, the same probably held for other requirements. In this connection it should be noted that as at the moment the small farmer tends to pay cash for his purchases, while the big farmer is using credit, the discrepancy in cost of requirements between the groups is

probably normally in excess of the percentages indicated. Moreover, owing to the fact that the small farmer can only put small lots of produce on the market, and as a result of his inferior bargaining power, he received some 10 per cent. less for his barley and 2 per cent. less for his wheat than farmers in the 300-500 acre size group.

If, for example, the smallholder had been able in 1932 to sell his wheat and barley and to purchase his feeding stuffs and manures on the same terms as the large farmer, his income would have been increased by £15 a year, and these are but a few of the directions in which a saving could be effected.

With regard to the other prevalent idea in respect of smallholdings, *i.e.* that a retail market for milk is essential to their success, there is reason to doubt whether this belief is always founded on substantial grounds. It is at least clearly proved by the data collected in the present investigation that smallholdings can be remunerative without access to a retail milk market. For example, fifty-two holdings, or one-quarter of all farms between 20 and 50 acres investigated, selected from various districts and doing little or no retailing, and on which the average price of all milk sold was 11·58d. per gallon, were in the satisfactory position of providing an average family income of £146, while the occupier received £94 for his own labour. Organisation, therefore, can be evolved to overcome difficulties which arise from the lack of a local market.

The reason for the success or failure of any particular smallholding or group of holdings must apparently be sought in the organisation of the holding concerned. In every district profitable holdings are to be found. How do these successful holdings differ from the less successful? Have the occupiers in the first case some particularly remunerative line of production denied to their less fortunate neighbours, or is their success due to a happier combination of enterprises, to more intensive or to more efficient production? Could, for example, a planned smallholding colony which would have a reasonable chance of success be evolved for each locality or soil type?

If we proceed to examine the amount and distribution of capital, output, income and expenditure on smallholdings in each of the nine districts, certain important considerations immediately emerge. Average capitalisation, for example, ranges from as low as £8·57 per acre (District 9) to as high as £24·85 per acre (District 6), while these two districts have the lowest (£5·51) and the highest (£22·54)

gross output per acre. Rate of capital turnover varies from a maximum of 112 per cent. in District 7 to a minimum of 60 per cent. in District 1, and the holdings in more profitable districts had the higher rate of turnover.

TABLE IX

CAPITAL AND GROSS OUTPUT BY DISTRICTS, 1932

District No.	1	2	3	4	5	6	7	8	9
Capital per acre £	12·08	11·54	12·21	12·26	10·08	24·85	11·68	13·68	8·57
Gross Output per acre £	7·22	9·26	7·44	9·94	6·16	22·54	13·11	13·49	5·51
Gross Output as per cent. of Farm Capital %	59·77	80·24	60·90	81·08	61·11	90·70	112·24	98·61	64·30
Farm Income £	- 4	+ 24	45	+ 14	40	+ 88	+ 83	+ 52	- 26

It should be noted, however, that there appears to be no direct connection between capitalisation and profits. District 3, for example, with a capital of just over £12 an acre, showed a farm income of minus £45 on the year, while in District 7, with rather less capital, the farm income was £83. In the first case, however, the rate of capital turnover was 61 per cent. and in the second 112 per cent. The secret of success lies rather in the efficient application of capital.

Turning to the amount and distribution of gross income, figures for which are given in Table X, it is evident that certain wide differences occur both in the total gross income per acre and in the methods by which the income is obtained. At the same time certain tendencies emerge. The amount of the gross income, for example, tends to be correlated with profitableness, for farms with a high gross income have the highest farm income. Accepting this fact, can it be said that the most profitable districts derived a higher percentage of their gross income from sales of livestock and livestock products? If we contrast the three most profitable with the three least profitable districts, it appears that a higher percentage of the gross income is derived from livestock products in the more profitable groups. It is obvious, however, that the main reason for the success of the most profitable farms is due to the more intensive nature of their production. The fact that the production is less intensive in the three unprofitable districts is probably due to lack of capital and unsuitable organisation, largely resulting from an inferior local market for livestock and livestock products.

TABLE X

AMOUNT AND DISTRIBUTION OF GROSS INCOME (£) PER ACRE, 1932

District No.	1	2	3	4	5	6	7	8	9
	£	£	£	£	£	£	£	£	£
Cattle Sales	1·14	0·94	0·90	1·71	0·53	1·12	2·19	0·68	0·84
Dairy Produce	1·81	4·49	1·03	3·57	0·76	7·09	9·71	5·76	2·76
Sheep and Wool	..	..	0·05	0·23	..	..	0·32	..	..
Pigs	1·11	1·11	2·26	1·20	1·55	0·33	0·66	3·31	0·60
Poultry and Eggs	1·22	1·00	1·37	2·43	1·34	10·52	1·39	0·97	1·08
Wheat [1]	0·67	0·37	0·85	0·37	1·10	0·43	0·26	0·68	0·43
Barley	0·72	0·63	0·36	0·26	0·29	0·12	..	1·14	0·03
Sugar Beet	1·03	0·97	1·03	0·37	0·58	..	..	0·62	0·16
Other Crops	0·08	0·40	0·26	1·06	0·32	3·82	0·18	1·54	0·24
Miscellaneous	0·11	0·09	0·10	0·37	0·29	0·18	0·32	0·30	0·16
Total	7·89	10·00	8·21	11·57	6·76	23·61	15·03	15·00	6·30

TABLE XI

PERCENTAGE OF GROSS INCOME DERIVED FROM LIVESTOCK AND LIVESTOCK PRODUCTS IN CERTAIN DISTRICTS, 1932

District No.		3	5	9	6	7	8
Farm Income	£	·45	·40	26	·88	1·83	1·52
Gross Income	£	8·19	6·76	6·30	23·31	15·03	15·00
Percentage of Gross Income from Livestock and Livestock Products	%	68	62	83	81	94	72

TABLE XII

AMOUNT AND DISTRIBUTION OF GROSS EXPENDITURE BY DISTRICTS (£) PER ACRE, 1932

District No.	1	2	3	4	5	6	7	8	9
	£	£	£	£	£	£	£	£	£
Labour	2·67	3·05	3·00	2·86	2·63	5·49	3·29	3·94	2·16
Fertilisers and Manure	0·14	0·20	0·23	0·11	0·21	0·45	0·05	0·24	0·05
Feed	1·80	2·80	2·87	3·91	1·81	7·73	4·71	4·17	1·92
Seeds	0·28	0·20	0·21	0·26	0·11	0·45	0·19	0·38	0·11
Livestock	0·67	0·74	0·74	1·63	0·61	1·06	1·92	1·51	0·78
Rent	1·50	1·26	1·15	1·11	1·16	2·76	1·50	1·62	1·30
Miscellaneous	0·94	1·06	1·13	1·29	1·29	3·00	1·18	1·73	0·68
Total	8·00	9·31	9·33	11·17	7·82	20·94	12·84	13·59	7·00

The amount and distribution of gross expenditure per acre are given in Table XII. Here again wide variations occur. Gross

[1] Wheat deficiency payments have been excluded in the following calculations, as the Wheat Act was passed too late in 1931 for the promise of a guaranteed price materially to affect acreage of wheat harvested in 1932.

expenditure ranges from £7 an acre in District 9 to nearly £21 per acre in District 6, while equally wide variations arise in expenditure on labour, feeding stuffs, livestock and miscellaneous requirements within the districts.

In order to determine the part played by technical efficiency in the successful holdings, the ten most profitable are compared with the ten least profitable farms in the central Norfolk loam

TABLE XIII

FAMILY INCOME ON CERTAIN PROFITABLE AND UNPROFITABLE FARMS, 1932

	Best Farms	Worst Farms
	£	£
Farm Income	123	−122
Drawings in Kind	29	28
Deficiency Payments	21	23
Family Labour	10	36
Family Income	+183	−35

district (District 1). The amount and composition of family income in these farms are given in Table XIII. In the best farms the family income was £183, compared with (−) £35 in the worst, while the farm income in the former case was £123, compared with (−) £122 in the latter.

The two groups were identical in size, and contained the same arable acreage. The farm capital was £563, or £15·2 per acre, in the best farms, and £407, or £10·93 per acre, in the worst. Gross output was £469, or £12·66 per acre, in the profitable group, compared with £175, or £4·71 per acre, in the unprofitable, while gross income was £510, or £14·23 per acre, and £201, or £5·41 per acre, respectively. The analyses of income and expenditure on the two groups are given in Tables XIV and XV.

Here again the profitable farms produce more intensively, and the holdings are so organised that, with approximately £150 more capital and an additional expenditure of £65, the gross income has been raised from £201 to £510. Expenditure on labour in the two groups of holdings was practically identical, although the output per £100 manual labour was £268 in the profitable group, compared with £105 in the unprofitable. The rate of capital turnover was 83 per cent. in the profitable compared with 43 per cent. in the unprofitable farms. At the same time, the profitable holdings purchased more feeding stuffs and more fertilisers, produced more milk per cow

(658 gallons compared with 556), and more eggs per hen. It is therefore legitimate to assume that not only was production on the profitable holdings more intensive, but that it was more efficient, and that better use was made of the various factors in production.

TABLE XIV

AMOUNT AND DISTRIBUTION OF GROSS INCOME ON CERTAIN PROFITABLE AND UNPROFITABLE FARMS, 1932

	Profitable			Unprofitable		
	Per Holding	Per Acre	Per Cent.	Per Holding	Per Acre	Per Cent.
	£	£		£	£	
Cattle Sales	61·7	1·67	12·1	43·4	1·17	21·5
Dairy Produce	140·7	3·80	27·6	45·4	1·22	22·6
Sheep and Wool	..	..	..	3·8	0·10	1·9
Pigs	79·4	2·14	15·5	26·3	0·71	13·1
Poultry	26·8	0·72	5·3	6·1	0·16	3·0
Eggs	44·3	1·20	8·7	18·1	0·49	9·0
Wheat	20·7	0·56	4·1	23·0	0·62	11·4
Barley	31·1	0·84	6·1	18·3	0·49	9·1
Sugar Beet	88·9	2·40	17·4	12·0	0·32	6·0
Other Crops	14·9	0·40	2·9	..	..	..
Miscellaneous	1·9	0·50	0·3	5·0	0·13	2·4
Total	510·4	14·23	100·0	201·4	5·41	100·0

TABLE XV

AMOUNT AND DISTRIBUTION OF GROSS EXPENDITURE ON CERTAIN PROFITABLE AND UNPROFITABLE FARMS, 1932

	Profitable			Unprofitable		
	Per Holding	Per Acre	Per Cent.	Per Holding	Per Acre	Per Cent.
	£	£		£	£	
Labour	126·1	3·40	32·5	122·0	3·27	37·8
Fertilisers and Manures	13·7	0·37	3·5	5·5	0·15	1·7
Foods	85·8	2·32	22·2	69·2	1·86	21·4
Seeds	10·9	0·29	2·8	8·8	0·24	2·7
Livestock	41·3	1·11	10·7	25·9	0·69	8·0
Rent	59·2	1·60	15·3	55·9	1·50	17·3
Miscellaneous	50·4	1·36	13·0	35·6	0·96	11·1
Total	387·4	10·45	100·0	322·9	8·67	100·0

The Organisation of Six Successful Smallholdings.—Having shown why holdings are successful in certain districts, we can now consider in detail the internal organisation of a few successful smallholdings on various soils. Such an analysis will also be useful when we consider the construction of a smallholding colony. For this

purpose, six successful smallholdings have been selected, and a summary of income in each holding is given below for the year 1932.

TABLE XVI

FAMILY INCOME OF SIX FARMS ON CLAY, LOAM AND GRAVEL SOILS, 1932

	Clay	Loam			Gravel	
Farm No.	1	2	3	4	5	6
	£	£	£	£	£	£
Farm Income	111	167	156	144	101	148
Drawings in Kind	15	40	39	36	35	36
Wheat Deficiency Payments	..	36	30	..	7	24
Occupiers' Income	126	243	225	180	143	208
Family Labour	..	51	10	10	30	104
Family Income	126	294	235	190	173	312

It will be seen that in no case did the occupier receive under £2 a week for his own labour, while on the two most prosperous holdings his income was approximately £4½ a week. In two cases the family income was approximately £300 a year.

The crop acreages given in Table XVII show a considerable variation in the cropping system between the farms. The successful

TABLE XVII

TOTAL ACREAGE, ARABLE ACREAGE AND ACREAGE IN VARIOUS CROPS ON SIX FARMS, 1932

Farm No.	1	2	3	4	5	6
	Acres	Acres	Acres	Acres	Acres	Acres
Total Acreage	40	43	44	35	44	50
Arable ,,		30	33½	26½	35½	41
Crops						
Wheat	..	6	6	..	2½	6
Barley	..	10	8	4	..	9
Oats	..	..	..	7	4	6
Mangolds, Swedes	..	4	7	4½	3	1
Sugar Beet	..	..	4	..	..	6
Potatoes	..	..	..	4	1½	3
Brussels Sprouts	..	..	..	..	..	10
Seeds and Meadows for Hay	..	10	8	7	24½	..
Orchard	..	..	½	..	..	..
Permanent Pasture	39	12	10	8	8	9

holding on the clay soil had no arable land, and was devoted entirely to milk and egg production.

The variety of crops grown increased as soil texture became lighter. Considerable acreages of cereals, representing 53 per cent., 42 per cent. and 51 per cent. respectively of the arable land, were grown on holdings Nos. 2, 3 and 6, while sugar beet was grown on holdings Nos. 3 and 6, potatoes on Nos. 4, 5 and 6, and Brussels sprouts on No. 6, and holding No. 3 had half an acre of orchard. With regard to livestock (Table XVIII), cows were kept on all the holdings, but milk production was most important on holdings Nos. 1, 3 and 5. Holdings Nos. 1 and 2 carried a considerable number of other cattle. Holdings Nos. 3, 5 and 6 kept sows, while all holdings had some poultry, which was an important enterprise on Nos. 1, 2 and 3. Holding No. 2 had 40 turkeys.

TABLE XVIII

NUMBERS OF LIVESTOCK PER HOLDING ON SIX FARMS, 1932

Farm No.	1	2	3	4	5	6
Horses	..	2	3	2	2	2
Cows	10	4	10	3	8	2
Other Cattle	8	11	6	1	4	1
Sheep	..	..	..	..	..	..
Sows	..	..	2	5	..	2
Laying Hens	200	200	170	50	40	100
Turkeys	..	40	..	..	..	..

The gross income and gross expenditure on these holdings are given in Tables XIX and XX.

TABLE XIX

AMOUNT AND DISTRIBUTION OF GROSS INCOME ON SIX FARMS, 1932

Farm No.	1	2	3	4	5	6
	£	£	£	£	£	£
Livestock Products	528	119	444	65	255	62
Livestock Sales	191	202	115	140	82	148½
Crop Sales[1]	..	70	159	106	51½	529½
Miscellaneous Receipts	..	..	16	15	..	..
Gross Income	719	391	734	326	388½	740

[1] Not including wheat deficiency payments. See Table XVI.

TABLE XX

AMOUNT AND DISTRIBUTION OF EXPENDITURE ON SIX FARMS, 1932

Farm No.	1	2	3	4	5	6
	£	£	£	£	£	£
Rent	40	60	85	40	52	75
Seeds	..	6	15	23	9	39
Fertilisers	4	..	20	..	..	77
Foodstuffs	351	41	119	74	123	108
Labour	93	56	188	23	48	184
Livestock	107	40	58	2	33	18
Sundry Crop Expenses	..	7	4	3	3½	11
Miscellaneous Expenses	13	14	89	17	18½	50
Total Expenditure	608	224	578	182	287	592

The different characters of the holdings are further accentuated by an examination of farm income and expenditure. The total income on holding No. 1 on the clay soil was, for example, derived from the sale of livestock and livestock products. At the other end of the scale, holding No. 6 on the gravels derived 82 per cent. of its income from crop sales. At the same time a wide range occurred in intensity of production, as indicated by the gross income. On holdings Nos. 2, 4 and 5 the gross income lay between £300 and £400, and on Nos. 1, 3 and 6 between £700 and £800. On the expenditure side, holding No. 1 purchased £107 worth of livestock during the year, while holding No. 4 was self-supporting. Holding No. 1 purchased £351 worth of feeding stuffs, holding No. 2, £41 worth, holding No. 6 spent £77 on fertilisers, while holdings Nos. 2, 4 and 5 bought none.

Finally, if we examine the efficiency of production in these holdings, we find that here again considerable variation occurs, although for the most part the holdings are well above the average for the group. Certain measures of efficiency are given in Table XXI.

TABLE XXI

EFFICIENCY INDICES FOR SIX FARMS, 1932

Farm No.	1	2	3	4	5	6	Standard
Milk yield per cow . Gallons	831	613	793	598	912	468	645
Eggs per hen . . . No.	136	112	76	117	130	111	96
Gross Output per £100 Manual Labour (including Occupier) £	358	231	232	263	234	240	169
Gross Farm Output per £100 Farm Capital . . £	113	58	83	78	98	86	72
Gross Livestock Output per £100 Foods Consumed . £	157	286	197	150	230	122	182

Of these indices, that representing gross output per £100 manual labour is in every case well above the normal for the group. This fact may be due to any one of three main causes: (*a*) That these smallholders worked longer hours than the average smallholder, (*b*) that they worked harder, and (*c*) that they concentrated on high value products. Possibly each of these factors played a part in the high index. In three out of the six holdings, livestock efficiency as measured by the output per £100 foods consumed could have been considerably improved. Rate of capital turnover was below normal in holding No. 2. Milk yields per cow were below standard in holdings Nos. 2 and 6, while eggs per hen were below standard in holding No. 3.

The prices received for milk and eggs in the various holdings are shown below.

TABLE XXII

MILK AND EGG PRICES ON SIX FARMS, 1932

Farm No.	1	2	3	4	5	6
Milk, pence per gallon [1]	13·4	6·7	12·7	8·8	11·8	12·0
Eggs, pence per dozen	16·9	10·1	13·1	8·8	9·0	12·6

It will be seen that none of the farms received high prices for their milk. The price of milk on holding No. 2, whose milk (produced in summer) was largely manufactured, averaged only 6·7d. per gallon, while the best price for milk—13·4d. per gallon—was received on holding No. 1, in which case all milk was sold wholesale. The high price for eggs obtained by holding No. 1 was due to the high percentage of eggs sold in the winter months, when they commanded good prices.

Taken on the whole, these 6 smallholdings are much above the general level of efficiency. There are, nevertheless, obvious directions in which even their organisation might be improved, as, for example, in the introduction of a pig unit of 5 or 6 sows in holding No. 2, in increasing the egg yield per hen in holding No. 3, and in improving the rationing in holding No. 4. None of them, however, have special marketing facilities, and they provide examples of efficient organisations which might be used in colony settlement.

[1] When butter is sold, the price is expressed on the basis of milk equivalent.

CHAPTER IX

THE ORGANISATION OF LAND SETTLEMENT

In the preceding chapters of this report various aspects of Land Settlement have been discussed. The conclusion has been reached that the opportunity for additional settlement in Great Britain, either from the wider issues of economic policy or from the more specific consideration of the smallholding as a unit of agricultural production, is largely illusory. Nevertheless, it has been suggested that I should indicate the lines along which, in the event of Land Settlement being adopted for other than economic reasons, smallholdings could be established with the minimum of cost to the State. The arguments advanced, however, may be of greater value in suggesting lines along which existing settlements might with advantage be reorganised rather than in providing a basis for new settlement.

Approaching Land Settlement from this standpoint, we must consider (1) the methods by which maximum efficiency within the productive unit can be obtained; and (2) the problem of evolving an organisation capable of securing for these holdings the advantages generally claimed for larger units of production.

In this connection the organisation of three types of holding will be discussed: (*a*) the 20-50 acre mixed arable holding in which the greater proportion of the gross income is derived from the sale of livestock products, (*b*) the intensive market garden and/or pig and poultry holding of 3-5 acres, (*c*) as an alternative to this latter type the 20-50 acre pig or poultry holding on poor land.

In discussing the establishment of these holdings certain estimates of production and cost are essential, and the figures here used are derived from existing holdings. They are as far as possible representative of general conditions, but they must be interpreted with caution when applied to individual cases. The cost of land, for example, shows wide variation throughout the country, and is governed by a number of factors, such as quality, the proximity of the market, the existence of site value, the distance from main water, electricity and roads, or, in rural districts, the depth at which water can be obtained. Building costs tend to rise as we move

from east to west. While the total cost of establishment probably shows less variation than the cost of individual items, it is unsafe to use these figures without qualification for different parts of the country.

General Principles.—The following principles, some of which are discussed in detail in the succeeding sections, apply to all three types of holding :—

(1) The land must be of suitable quality for the purpose in mind and there must be an adequate water supply.
(2) The settlement should be intersected by good roads.
(3) Where market gardening is to be practised the settlement should be situated in an area where there is little danger from spring frosts and where the climate is mild.
(4) Any market garden holdings should be placed on the best soil in the settlement and the poorer land allocated to poultry and pigs.
(5) An adequate supply of horse manure is desirable for Dutch light and glasshouse cultivation.
(6) The settlement should as far as possible be removed from urban influence.
(7) Various social amenities should be available, viz. village hall, playing field, school, church, chapel, bus service, shops, public house, and social life should be well organised.
(8) Great care should be taken in the selection of the settlers and their wives. Preference should be given to those with experience of work on the land. Both men and women should be strong and healthy, and must be prepared to give up much of the social life to which they have been accustomed.
(9) Co-operative purchase of requirements and/or marketing of produce should be a condition of tenure.
(10) Settlers should be advised and directed as to the type and quantity of the crops they should grow—only certain recognised breeds of poultry and pigs should be kept on the estate.
(11) Adequate measures of control should be taken and enforced against disease.
(12) A code of conduct should be drawn up and penalties enforced for any infringement.
(13) The settlers should draw unemployment relief and pay no rent during the first year of occupation, during the second

year they should pay an *economic* rent, as at the end of the first twelve months they should have sufficient stock and equipment to be self-supporting.

(14) During the first year the settlers should construct pig, poultry and glass houses to a standard pattern.

(15) It is essential that an adequate system of book-keeping should be introduced for each holding, and that accounts should be submitted to expert analysis.

Settlement of 20-50 Acre Mixed Arable Holdings.

It has been shown in a previous chapter that in England and on the Continent the small mixed arable holding has a marked resistance to low agricultural prices. This quality flows from the ability of the family to live off the farm and to adjust their organisation in the face of changing price-levels. While in Denmark, and to a less extent in Germany, the smallholding has been organised on a co-operative basis, co-operative organisation has made little headway in England, particularly as regards the sale of produce. In a survey of over 1000 farms in the Eastern Counties [1] (1932), only 11 per cent. of the occupiers were found to be associated with either a co-operative purchase or a co-operative marketing society, the proportion being 8 per cent. in farms below 150 acres, compared with 18 per cent. in farms of 150 acres and upwards. This lack of co-operation among small farmers who should normally derive most benefit from it appears, in the light of experience, to be a grave weakness in the British system.

In an earlier section the extent of the economies which result from co-operation have been indicated. In dealing with the problem of settlement in this chapter, therefore, only group or colony settlement on a co-operative basis will be considered. Broadly speaking, it may be said that the area of the colony must be sufficiently large to carry the overheads of a co-operative organisation, and as in this connection the experience of existing settlement is inadequate, it will be convenient to take as an experimental unit an area of 5000 acres. This is the size of the Ministry of Agriculture's estate at Sutton Bridge, which has been very successful. It is also an area which might conceivably be purchased in a single block and which is sufficiently large to maintain a central organisation. 5000 acres covers a stretch of country approximately $2\frac{1}{2}$ miles by 3, and would probably provide a variety of soils for each of which a suitable organisation would have to be evolved.

[1] Report No. 21, Farm Economics Branch, School of Agriculture, Cambridge.

The location of such an estate would depend largely on the availability of an area of suitable land at a reasonable price. But judging from experience, the colony would be most likely to succeed if established in a fairly remote district away from urban influence, and dependent on what may be termed an "internal export market."

Having decided on a suitable area, we must now determine

(*a*) The probable income and expenditure from the various enterprises.

(*b*) To what extent economies in expenditure and additions to income could be obtained as a result of co-operative purchase and sale, and co-operative tool-sharing.

(*c*) The cost of establishing and maintaining such a colony.

(*d*) The conditions of tenure.

(*e*) The extent to which it is advisable to control the activities of individual smallholders.

(*f*) The selection of tenants.

In drawing up a tentative budget for such a colony, data on smallholdings collected as part of a general survey of agricultural conditions in the eastern counties of England (1932) will be used. This information related to 201 holdings of 20-50 acres, and in order to produce average figures for the colony, 52 of the most profitable holdings have been selected. None of these had access to retail markets, and their success was largely the result of a well-balanced organisation together with a high order of technical efficiency on the part of the occupiers.

These 52 holdings were fairly evenly distributed throughout the area, and were situated on soils ranging from heavy London clays in South Essex to the sandy soils of the Norfolk breck. The average size of these holdings was just under 37 acres, of which 23 acres were arable. The farm capital was £460 per holding, of which 36 per cent. was invested in crops and tenant right, 44 per cent. in livestock and 20 per cent. in implements and machinery. Of capital in livestock, 51 per cent. was invested in cattle, 16 per cent. in poultry, 13 per cent. in pigs and 20 per cent. in horses. Practically no sheep were kept. The estimated capital value of land and buildings was £850 per holding. An average of 3·5 cows, including those suckling calves, were kept; these had a capital value of £20·8 per head. 2050 gallons of milk were marketed per holding, of which only 3·5 per cent. was sold retail, 69·5 per cent. was sold wholesale and 27 per cent. was manufactured. Average

receipts per cow amounted to £28, the price of milk per gallon was 11½d. and the yield averaged 648 gallons per cow. Including occupiers, an average of 1·86 manual workers were employed per holding.

(a) *Income and Expenditure.*—The average gross income was £418 per holding (excluding wheat deficiency payments) and gross expenditure was £350. The farm income was therefore £67, and the average family income was approximately £146 per holding. This latter was composed of farm income £67, drawings in kind (including rent of house) £34, wheat deficiency payments £17, and family labour (debited in farm account) £28. Deducting family labour and interest at 5 per cent. on farm capital, the smallholder received on the average £95 for his own labour. Compared with the income of the employed miner, or agricultural labourer receiving 40s. a week, the smallholder in this selected group is in the stronger position, particularly as he receives a large part of his food at wholesale rates (his milk at 11½d. per gallon, and his eggs at less than 1d. each).

Using the figures of the average holding, we can illustrate the probable income and expenditure of the colony. An area of 5000 acres would provide 136 holdings of 36·6 acres in extent, and this figure has been used as a conversion factor in arriving at the probable income and expenditure of the colony. For example, the average cattle sales per holding on the 52 smallholdings, multiplied by 136 (the conversion factor), is taken as the value of the cattle likely to be sold from the colony, and so on. The theoretical amount and distribution of income and expenditure on such a colony at 1932 prices are given below.

Income from		Expenditure on	
Cattle sales	£5,892	Labour (excluding occupier)	£12,108
Dairy Produce sales	13,757	Fertilisers and Manures	1,240
Sheep and Wool	5	Foodstuffs	15,700
Pig sales	9,813	Seeds	1,315
Poultry sales	3,210	Livestock	4,674
Egg sales	7,332	Rent	6,817
Horse sales	—	Miscellaneous Costs	6,011
Cereal sales	6,384		
Roots and Potatoes	7,593		
Other crops	1,403		
Miscellaneous sales	1,694		
Total	£57,083	Total	£47,865

The colony would, therefore, sell approximately £14,000 worth of dairy produce, £10,000 worth of pigs, £10,000 worth of poultry and eggs, £6000 worth of cattle and £15,000 worth of crops. On the other side, it would spend £16,000 on feeding stuffs, £12,000 on labour (of which £3750 would be merely a book entry credited to the smallholder's families and would emerge again as family income), £7000 on rent, £6000 on miscellaneous requirements, £5000 on livestock and £2500 on seeds and fertilisers.

(b) *Economies from Co-operation.*—It must be remembered, however, that these figures for income and expenditure are based on the prices paid and received by individual non-co-operating smallholders who buy and sell in small quantities. In a colony organisation a considerable sum could be saved by the bulk purchase and sale of commodities, by the enhanced price received as a result of grading and standardisation, and by economies in equipment resulting from co-operative tool-sharing. In such a colony, for example, a minimum of 75,000 gallons of milk would be turned into butter. Could this be done more effectively at a small creamery than on the holdings themselves? Would the butter, by reason of more uniform treatment, command a better price? Could sufficient sows be kept to supply a bacon factory? What economies could be effected in the handling and grading of £10,000 worth of eggs? Would the smallholders obtain a better price for their barley if it was put on the market in bulk, instead of in small parcels of 10-25 quarters? Turning to expenditure, what discount would be obtained in placing a single order for 250 tons of feeding stuffs, compared with the same total in 10 cwt. lots, or if petrol and paraffin were purchased by the 500 gallons, instead of in tens and twenties? Or if an order was placed for £1000 worth of fertilisers and seeds?

It is possible with reasonable assurance to estimate a few of the possible economies in income and expenditure. If we make the not unreasonable assumption that a 5 per cent. increase in net return could be obtained by better marketing, the income of the colony would be raised by £2875. An examination of the cost of feeding stuffs in the Eastern Counties indicated that holdings between 20-50 acres paid 10 per cent. more per ton than holdings between 300-500 acres in size. On a co-operative basis, therefore, at least a 10 per cent. reduction in the price of feeding stuffs could be obtained. Moreover, owing to the greater quantity required and to the fact that storage accommodation would be available, it

should be possible to buy during the low-price months, and a reduction of 20 per cent. does not appear improbable. In feeding stuffs alone, therefore, it should be possible to save in the region of £3000. Again, as the large farmers paid 20 per cent. less per ton for their fertilisers and seeds than the small farmers, at least £500 could be saved in this direction. There is no available measure for the probable reduction in the cost of miscellaneous requirements, but a further £600 can be added to previous economies by assuming the reasonable average of 10 per cent. On the expenditure side, therefore, we have been able to save £4125 in the purchase of requirements. Taken with the increase in income, the total economies, therefore, amount to roughly £7000. If from this sum we deduct £2000 to pay for wages and overheads at the central office, £5000 remains to be distributed as additional income, or an average of £37 per holding, among the tenants of the colony.

Nor is this all that could be done in the way of cost reduction. Tractors co-operatively owned could replace horses. Greater technical efficiency in pig production, a result of efficient demonstration on model holdings, the issue of balanced rations from the central store and the use of high quality stock could probably reduce pig production costs by 25 per cent. The issue of high quality tested seeds from the central office, and the selection of varieties suited to the soil of the particular holdings, should increase the efficiency of crop production. At the same time, certain enterprises might be profitably expanded. The average number of sows per holding might, at present prices, be increased with advantage from 2 to 4, or even 6. An average of 6 sows per holding, properly managed, would provide just under 250 pigs per week for the local factory.

(c) *Cost of Establishment.*—On the basis that the average size of holding settled is around 35 acres, and that large farms can be purchased at £20 an acre, the initial purchase price of the estate would be in the region of £100,000. Moreover, while the existing buildings could probably be adapted for use as smallholdings, it would be reasonable to assume an average expenditure of approximately £800 per holding, a total of £110,000, for the erection of new and the adaptation of old buildings, and the provision of roads, drainage and water supply. The total landlord's capital would therefore be in the region of £210,000. The annual rent of the farms used in this analysis was 26s. 8d. per acre. If this rental was charged on the colony, the estate rent-roll would be £6665, or a gross

return of 3·17 per cent. on landlord's capital. It has been estimated [1] that 45 per cent. of the gross rental is retained by the landlord after defraying maintenance and all statutory charges. Accepting this figure, the net return on capital would be 1·43 per cent., at which the scheme would not be self-supporting. If, however, the rent were raised to 40s. an acre, the gross return would be 4·76 per cent. and the net rental 2·14 per cent., at which figure it might be possible to finance the scheme by a State loan. These extra charges would increase each smallholder's expenditure by £25 annually, but this sum would be more than offset by the economies resulting from co-operation.

Tenant's capital, which would be provided by loan on the basis of £450 per holding, would amount approximately to £61,000, and would be repaid by an annual charge covering interest and amortisation. Therefore the total capital required to settle 5000 acres in smallholdings of approximately 35 acres in size would be in the region of £275,000, or an average of approximately £2000 per holding. An additional sum of about £10,000 would be required to develop the co-operative enterprise.

(d) *Conditions of Tenure.*—In the course of this investigation many attempts were made to ascertain, from those competent to express an opinion, the various reasons for the general failure of the co-operative movement in this country. Broadly speaking, the bulk of failures in co operative enterprise have been attributed to distrust of the organisers of the movement, and to the inability of members both to remain faithful to their organisation and to offer sufficiently high salaries to attract competent managers. The futility of establishing a central agency for co-operative purchase and sale, unless it is used by members of the association to the fullest extent, is obvious. Freedom to buy or sell outside the organisation might involve a complete breakdown of the system. Further, in order to facilitate the grading and standardisation of the produce, distribution must be canalised. The compulsory sale of all produce through a central agency must be an integral part of the scheme and should therefore be included as a condition of tenure. The same condition should apply to the purchase of requirements, except perhaps in the case of farm implements bought second-hand at farm sales.

Such a system has many obvious advantages. Relieved of the anxieties of marketing his produce, a function which can be more

[1] *Proceedings of Agricultural Economics Society*, 1930, W. C. D. Dampier-Whetham, "The Economics of Rural Landowning."

satisfactorily performed by the expert, the smallholder will have more time to devote to production. Acquiring his rations through what is virtually his own firm, he will be assured that he is getting full value for his money. At the same time the issue of rations properly balanced for various types of stock will improve the efficiency of livestock production, and eliminate one of the most frequent forms of unnecessary waste on the farm. The centralised purchase of livestock would ensure that only approved bulls were used, while pig production could be concentrated on those breeds which are best suited to modern demand. If, however, the smallholders were allowed to purchase their own livestock, definite rules would have to be enacted as to the type and breed of the stock kept on the holdings. Pigs for bacon, for example, might be confined to the production of pure-bred large whites, while pork producers might choose between pure large whites and the large-white/middle-white cross.

With regard to the other requirements, the central agency would supply those seeds best suited to the soil of any particular holding. The issue of cereal seeds would be confined to three or four suitable varieties in order to facilitate bulking for sale. Further regulations would be required to safeguard the community against disease and weed dissemination as the result of bad cultivation. The purchase of store pigs in the open market should be strongly discouraged, and an attempt should be made to render the colony as far as possible self-supporting in respect of livestock. Notification of an outbreak of certain infectious diseases, such as swine erysipelas, contagious abortion, and bacillary white diarrhoea should be sent to headquarters on discovery, and failure to comply with this regulation should be visited by an adequate fine.

(c) *Control of Production.*—The degree of control to be exercised over production on individual holdings is a difficult question. Should production be entirely controlled by the central office? Should the general manager have power to decide the crops to be grown and the livestock to be kept on individual holdings? Or should the type of organisation and quantity of production be left entirely to the smallholder? While the first of these alternatives savours overmuch of dictatorship, the second is open to the objection that, left to himself, the smallholder may embark upon types of production wholly unsuitable both to the soil and to the size of his holding. A certain amount of guidance as to cultivation and cropping is therefore desirable. An area of 5000 acres may present

fairly large differences in soil, and for each of these it will be necessary to evolve a suitable form of organisation. These organisations have been discussed in Chapter VIII.

(f) *Selection of Tenants.*—It is improbable that men without previous agricultural experience could rapidly acquire sufficient knowledge to run the complicated organisation of a mixed arable holding. There are, however, in the county districts many industrious and efficient agricultural workers lacking sufficient capital to rent a smallholding who could be absorbed by such a scheme.

Settlement of 3-5 Acre Intensive Holdings.

It has been shown in Chapter VIII that the main weaknesses of holdings of the 3-5 acre type are (*a*) that their incomes depend on the prices of a small group of commodities, (*b*) that as they have no arable land they depend, in pig and poultry production, on the world price of feeding stuffs, (*c*) that the limited number of commodities produced lowers the amount of home-grown produce consumed by the family. At the same time, certain defects of an organisational character were observed in holdings of this nature. Such defects appeared in the lack of orderly marketing, in the absence of the co-operative purchase and sale of requirements and commodities, and in the absence of reliable sources from which poultry holdings could purchase disease-free stock for replacements.

In approaching the problem of settling holdings of the 3-5 acre type, it is therefore necessary to consider to what extent and in what direction these defects can be reduced or eliminated. Can, in fact, these small units be organised to enjoy some of the advantages of large-scale production? Can this organisation overcome their inherent lack of stability? At the outset it may be said that although the impact of adverse economic forces on holdings of this type can be reduced as a result of certain forms of organisation, it is impossible to protect them completely from sudden changes in the price of their products and requirements, and in this respect they will always be liable to failure.

There are, however, certain lines along which they can be assisted, such as

(*a*) the provision of facilities, on a co-operative basis, for the orderly marketing, grading and standardisation of produce;

(*b*) the bulk purchase of requirements;

(*c*) the elimination of waste in production through the provision of certain services, viz. tractor power, haulage, day-old chicks, pedigree bulls and pigs, etc. ;

(*d*) increasing the capacity of the settler to live off his holding.

The problem therefore is to find a technique of settlement capable of fulfilling the above conditions.

It has been pointed out elsewhere that on holdings of this type the main sources of income are derived from pig, poultry and egg production, and the cultivation of vegetables and fruit in the open and under glass. While the marketing of pigs is relatively simple, the marketing of vegetables and fruit, complicated by their variety and their perishable nature, requires some form of co-operative organisation. If vegetables are to be graded and marketed co-operatively, the aggregate unit of production must be sufficiently large to maintain throughout the season regular and adequate supplies. Here again, therefore, the colony method of settlement is indicated.

At the same time the settlers might be assisted by a central farm which would provide the services mentioned above, and would also supply milk and butter, etc., for consumption on the colony, thus reducing the handicap of the small unit. The sale of cereals by the central farm will, however, be negligible : it will therefore be incapable of lessening the dependence of the settlers on the open market by supplying home-grown feeding stuffs.

In this case, as in the preceding section, the unit of production must be sufficiently large to carry the overheads of a central organisation, and our decision as to the area settled must be governed by the potential output of the colony. In order to obtain a net income of £2 a week, a gross income of approximately £200 a year is required from vegetable production, or £800 a year from pigs and poultry. If we assume that half of the settlers grow vegetables and glasshouse produce, and half keep pigs and poultry, then the average gross output per settler will be in the neighbourhood of £500 a year. A hundred settlers would therefore provide an aggregate gross output of £50,000, of which approximately £10,000 would consist of fruit and vegetables and £40,000 of poultry, eggs and pigs. The marketing of pigs offers little scope for co-operative enterprise, so that unless the colony owns a factory, this total exaggerates the turnover for the co-operative organisation. Nevertheless, taking into account the fact that at least £30,000 worth of requirements will be purchased through the central

agency in the course of the year, the unit would appear sufficiently large.

Adopting the unit of 100 settlers, the next point is to determine : (*a*) the unit of land to be given to each member of the group, and (*b*) the area to be set aside for the central farm.

(a) *Size of Individual Holding.*—The general experience throughout the country has been that, apart from glasshouse production, the area of market garden needed to support a family is steadily increasing. It has been pointed out elsewhere that the owners of 3-acre vegetable plots in the Evesham district are finding it increasingly difficult to make a living in spite of the presence of an efficient co-operative organisation. Similarly, in the poultry districts the rapid spread of disease under intensive methods is causing a change to more extensive production on larger areas. From this evidence it would obviously be unwise to limit too harshly the area of individual holdings. In view of the fact, however, that a number of the settlers will be growing glasshouse produce for which the area required will not be more than an acre, an overall average of 5 acres per holding would seem sufficient. This would allow a range of holdings of from 1 acre with glass, to 4 to 5 acres of market garden or of 7 acres for pigs and poultry.

(b) *The Central Farm.*—Before dealing with the area required for the central farm its function must be defined. The central farm should

(*a*) supply power for cultivation and transport ;

(*b*) maintain a herd of breeding pigs, from which weaners may be either fattened on the farm or sold to settlers for fattening or for breeding stock ;

(*c*) maintain a free range poultry flock and be responsible for a hatchery which will supply to the settlers day-old chicks from certified stock ;

(*d*) maintain a dairy herd to supply milk to the colony ;

(*e*) provide at a fee a sufficient number of pedigree boars ;

(*f*) take over and sell to the market gardeners of the colony surplus manure from the poultry and pig producers ;

(*g*) operate a central organisation for the co-operative sale and purchase of produce and requirements, and undertake where necessary the grading and standardisation of produce.

To fulfil adequately the above functions, it will be necessary for the central farm to carry a stock of approximately 20 dairy cows, 40 breeding sows and 1000 laying hens. Run as an *intensive* mixed arable farm, such a basic stock would probably require an area of 500 acres. For the total colony, therefore, an area of approximately 1000 acres will be required, of which about 500 acres would be in the possession of 100 settlers and the remainder operated as an "intensive" mixed arable farm.

(c) *Methods of financing Settlers.*—In settling men on the land, either of two systems of finance may be adopted. They may be provided with a limited amount of capital and allowed to work up their stocks until they become self-supporting, or they may be provided at the outset with sufficient stock to enable them to earn a livelihood. Unless the settler derives additional income from an outside source the former method is extremely dangerous, but if he has sufficient to live on for the first year of his tenancy, there is much to recommend it. Such a method (particularly if he has been drawn from a non-agricultural pursuit) gives the settler an opportunity of accustoming himself to his new surroundings and of learning to handle his stock. Therefore in settling unemployed men, it would be advisable to arrange that for the first year, while building up their stock and equipment, they should continue to draw unemployment relief.

Moreover, as men who have been unemployed for any length of time are likely to be physically unfit, this system has a further advantage in that it gives them time to recover their normal health before embarking on the hard work involved in agricultural pursuits.

(d) *Cost of Settlement.*—On the basis that the settlers are to be allowed to draw unemployment relief during the first year of settlement, and that they assist as far as possible in the erection of the buildings, the cost of settling one hundred men on the colony system may be roughly apportioned as follows :—

Land and buildings, 1000 acres at £20 an acre . .	£20,000
Water, fences, roads and drainage	10,000
100 houses, semi-detached, at £300	30,000
Stock and equipment, including glasshouses . .	30,000
Central farm	6,000
Co-operative organisation	4,000
	£100,000

The cost of individual holding may be allocated as follows :—

Pig and Poultry Holding [1]		Glasshouse and Market Gardens [2]	
Land	£100	Land	£60
Water, fences, roads, etc.	50	Water, fences, roads, etc.	50
House	300	House	300
Stock	150	Glasshouse (to cover $\frac{1}{10}$th of an acre)	300
Building and equipment	150	Other equipment	40
Total	£750	Total	£750

Too close an interpretation must not be placed on these figures, for there may be considerable variation in the cost of individual items between districts as a result of local conditions.

For the central farm, a working capital of £12 per acre, or a total of £6000, would be required. As far as possible existing farm buildings would be utilised. The farm would be run separately from the co-operative organisation, and would employ a manager and a qualified poultry instructor, both of whom would be capable of advising the tenants on details of cultivation and stock management. Full use should be made of the County advisory services.

The co-operative organisation should be distinct from the farm organisation. It should employ a capable manager and an adequate office and outside staff. It could probably be accommodated in existing farm buildings with minor alterations. It would require an initial capital of approximately £4000 for the provision of lorries, roto-tillers, packing materials and salaries, and a certain amount of working capital. It would handle goods on a commission basis, and any profits, after allowing for interest, depreciation and reserve, would be distributed among tenants in proportion to the value of their dealings with the Society.

Settlement of Poultry and Pig Holdings on Poor Land.

As a result of the high concentration of stock on poultry and pig holdings of the 3 to 5 acre type, the land, after a few years, generally becomes impregnated with disease, and heavy losses are likely to occur. As in both poultry and pig production the quality of the land is of little consequence, provided it is well drained, the

[1] For a pig or poultry holding, 12 sows and 400 laying hens would appear to be a suitable unit.

[2] For a glasshouse holding, $\frac{1}{10}$th of an acre would be required under glass.

establishment of pig and poultry holdings on large areas of poor land might be considered. There are, for example, large areas of semi-derelict land on the Norfolk and Suffolk breck, and on the downs in Wiltshire and Hampshire, which appear eminently suitable for poultry and pig production. As land in the breck can be bought at £4 to £5 an acre, a holding of 20 acres could be established here for the same cost as one of 5 acres on good land.

In this district the land is not sufficiently fertile to render mixed farming on a large scale profitable, so that the central organisation would be limited to a co-operative organisation for the purchase of feeding stuffs, for the grading of eggs and for the provision of transport and power. The settlers should be established in units of 100 or over, on the general lines indicated in the case of the 3-5 acre holdings.

The advantages of holdings of this latter type are twofold. As they enjoy free-range conditions, pigs and poultry will be less liable to disease. At the same time, the distribution of poultry manure over the area will greatly improve the condition of the soil, and might in time enable the smallholder on the better lands of the area to embark on arable cultivation. During the first few years he will at least be able to grow his own vegetables.

CHAPTER X

SUBSISTENCE HOLDINGS

ATTEMPTS have been made in Europe and elsewhere to alleviate the distress of the unemployed by the provision of small areas of land on which they can grow part of their food supply. Such areas have been variously referred to as part-time, subsistence, supplementary or accessory holdings, and the following section deals with their development in United States of America, Germany and Britain.

UNITED STATES OF AMERICA.

The statutory authority for the creation of subsistence holdings in the United States is derived from an Act of Congress of July 1931 which, in order to assist "the redistribution of the balance of population in industrial areas,"[1] provided a fund of $25,000,000 to be used "in making loans for, and otherwise aiding in, the purchase of subsistence homesteads." The money collected as repayment of the loans constitutes a revolving fund, and the executive work is carried out by a "Division of Subsistence Homesteads." The more specific problems with which the legislation is supposed to deal include—

(a) *the assistance of "stranded" industrial populations*, as, for example, in the timber industry, where thousands of families have been stranded by the cutting down of the forests;

(b) *the assistance of "over-aged" workers*. After 45 years of age workers in certain industries find it extremely difficult to obtain employment, and as the proportion of old people in the nation's population is increasing, provision for old age is becoming an important social problem. "A garden home acquired during a worker's active years in industry offers the prospect of a place to retire to when the period of maximum earning power has passed";

(c) *the shorter work day and work week*. Technical progress in industry resulting in a further shortening of the working

[1] "Division of Subsistence Homesteads," Circular No. 1.

day or of the working week suggests the development of garden homes where vegetables, fruit and poultry production for family use can supplement other income;

(d) *cyclical employment.* In times of industrial depression and unemployment, the occupation of a plot of land from which the worker can obtain food for family needs has a stabilising effect on his income;

(e) *seasonal industry.* Wage rates in certain seasonal industries are insufficient for a satisfactory standard of living and can be augmented by subsistence holdings;

(f) *decentralisation of industry.* The creation of small industrial plants in villages, in conjunction with part-time settlement;

(g) "*stranded*" *agricultural communities.* The removal of agricultural families from eroded or worn-out land, and their settlement on better soil;

(h) *suburban-living and better housing.* The development of garden homes for workers in the vicinity of cities.

Five classes of holding are being established:—

(1) Workers' garden homesteads near small industrial centres to which further decentralisation is likely to occur.

(2) Workers' garden homes near large industrial centres, usually of heavy industries unlikely to decentralise.

(3) Projects for the rehabilitation of "stranded" industrial population, particularly miners of bituminous coal.

(4) Projects for the reorganisation of certain rural communities, and for the removal of "rural slums from sub-marginal land."

(5) The movement of large farm families from sub-marginal dry-farming lands in the west to unoccupied farms or Federal reclamation schemes.

Subsistence homesteads are established in groups of 25 to 100 families, and in exceptional cases in larger numbers. A homestead ordinarily consists of from 1 to 5 acres, depending upon the quality of the soil, the size of the family, the character of the proposed agricultural operations, and the opportunity for other wage employment. The family raises vegetables and fruit, poultry, one or two pigs, and may keep a cow. The holding is intended to supplement work in office or factory, and "one conclusion clearly drawn from European experience with 'smallholdings' is that without adequate opportunity for wage employment failure will result."

(1) *Tygart Valley Homestead, near Elkins, West Virginia.*—For this scheme a grant of $675,000 was received from the Division of Subsistence Homesteads; and an estate of 2500 acres of land has been settled by 270 families. They are mainly unemployed miners, lumbermen and farmers who previously occupied sub-marginal land. Each homestead comprises about 2 acres on which the family raises potatoes, fruit, vegetables and chickens, and there is a community dairy which provides milk, butter, cheese and meat.

While they were assisting in the construction of the colony, the men received relief wages for three days a week, and on the other three days they received credit hours towards the total labour hour cost of the homestead. The men were assigned to the type of work for which they had had some previous training, or for which they showed a particular aptitude; as they "assist each other hour for hour on the construction of their houses, the money cost of their homes was reduced to a minimum."

(2) *Tulsa, Oklahoma.*—This scheme assisted 50 workers with low cash incomes to acquire cheap homes on small tracts of fertile land. Attractive houses of from 3 to 5 rooms were erected on 2-acre plots, and the holders, mainly mechanics or persons employed part-time or seasonally, grow a considerable portion of their own food.

(3) *Reedsville, West Virginia.*—This experiment provides homes for 125-200 families who are being selected from the unemployed coal miners in West Virginia. Owing to a shift in the industry many of these men have been unemployed for five years, and without steady employment since the early nineteen-twenties. The settlers are enabled to buy cheaply a 5-acre homestead on a 20 years' purchase plan.

The house is a frame building in one storey comprising 4 rooms and a bathroom, a cellar, a workroom, a furnace room, a fruit-cellar and a wash-house. The houses have been varied in size to accommodate families ranging from 6 to 13 members. Each has a well which supplies water by electric pump, and specially constructed tanks take off the sewage. The furniture is made by the men. A veranda paved with flagstones runs along the front of the house. In the backyard there is a chicken run, and further out lies the rest of the land.

A crop production programme for each homestead has been planned by the West Virginia College of Agriculture, and many of the future settlers are attending night classes on the use of agricultural produce in the home.

GERMANY.

The purpose of the subsistence holding in Germany is very similar to that in the United States. The problems being studied include—

(*a*) the decentralisation of industry through the transference of small industrial units to the eastern provinces;

(*b*) the provision of holdings for the unemployed in the neighbourhood of towns and of depressed industries;

(*c*) the provision of holdings in conjunction with the shorter working week.

Certain large industrial firms, notably Krupp and Siemens, have developed housing estates for their workmen, in which a house and half an acre of land is provided on a hire-purchase system within a reasonable distance of the factories. As in America, holdings are established on the colony principle. The object of settlement in the case of both these firms has been (*a*) to provide a source of income to their workmen during a period of depression or of cyclical unemployment; and (*b*) during a boom period to "tie" skilled workmen more securely to their firms.

It has been calculated [1] that in Germany expenditure on food represents 48 per cent. of total expenditure in incomes below £125 a year, while in incomes between £45 and £75 it ranges from 55 per cent. to 70 per cent. In a study of a large number of household budgets in which the average income was £113, expenditure on food represented £54. 10s., and of this amount £18 was spent on meat and fats (including butter), £2. 10s. on potatoes, and £3. 10s. on other vegetables. According to the Settlement Authorities, a half-acre holding properly organised can provide an additional income of around £20 a year. It is claimed, therefore, that if provided with such a holding the family is better fed and/or purchasing power is released for use in industrial goods.

On these holdings one or two pigs are fattened during the year, the fruit and vegetables required by the family are grown, while poultry and rabbits are kept to vary the meat diet. The pigs are fattened from potatoes grown on the holding, household scraps, and an addition of purchased cereals, and the pig and poultry manure is used to increase the fertility of the land.

GREAT BRITAIN.

In Britain subsistence holdings have been established mainly in the "Special Areas" as a method of providing an occupation and

[1] 1.6 *Milliarden Mehrumsatz für die deutsche Industrie*, Walter Stausz. Die Neue Wirtschaft, Jahrgang III, H. 5, pp. 1-4.

interest for the unemployed. In England settlement has been carried out by the Society of Friends, and in Scotland by the Department of Agriculture. The work of both these bodies has not received the attention it deserves.

Although the subsistence holding is not designed to render the occupier self-supporting, it has much to recommend it, and in its ultimate effects may prove of greater benefit than more ambitious schemes of full-time settlement. The size of the holding can be limited to supply little more than the needs of the family, and local markets, which may be extremely sensitive to increased supplies, will not be disturbed. On the other hand, as the unemployed cannot generally afford to buy any great amount of vegetables, eggs or poultry, the local market is unlikely to suffer any great loss of custom. If in fact less money is spent on vegetables, it will be released for the purchase of other goods.[1]

Such a scheme does not require heavy capital expenditure. The quality of the land, provided it is not too heavy or too light, is not so important as in commercial production; a small area of heavy land adequately drained, or of light land with an addition of humus, quickly improves under intensive spade cultivation. If the land is available in the vicinity of the men's homes, no houses need be built; and if land can be obtained on lease, an initial capital of £10 to £15 per man for the purchase of poultry, netting, tools and timber should cover the cost of settlement. Where houses are built, the total cost would probably be around £300 per man, and subsistence holdings could be provided by town-planning and local authorities in rehousing schemes. Seeds, fertilisers and other requirements should be purchased co-operatively. In cities where the land is likely to lie at some distance it should be possible to arrange free transport in municipal trams or buses for unemployed men visiting their allotments.

This form of settlement has further advantages. Unemployed families will be better fed. The work of the holding and a better diet will enable the unemployed man to recover strength and self-confidence, and if later he is required to take his place in industry, he will return to work in good condition. At the same time there are many unemployed unlikely to be reabsorbed in industry. In the light of the evidence presented in this report, the subsistence holding, as a supplement to unemployment relief, would appear to provide a more suitable and more economic form of assistance than

[1] It should be noted that under present regulations an unemployed man is allowed to earn a net profit of 3s. 4d. a day without endangering his right to relief.

that of full-time settlement, and offers considerable scope as a method of social betterment.

Details of the costs of establishing a number of these schemes in Scotland are given below.

TABLE U[1]

	1	2	3	4
Area . . (acres)	8	7	3¼	31
Number of Plots . .	17	14	12	27
Period of Lease (years) .	5	5	5	5
Costs : Grants . .	£44 0 0	£23 0 0	£34 10 0	£108 9 6
Loans . .	£15 0 0	£21 0 0	£18 0 0	£3 3 8
Rent (payable by Department) . .	£16 0 0	£14 8 6	£11 7 6	£45 0 0
Total Gross Cost . .	£75 0 0	£58 8 6	£63 17 6	£156 13 2
Total Net Cost . .	£60 0 0	£37 8 6	£45 17 6	£153 9 6
Rents received by Dept.	£14 7 0	£15 3 4	£9 9 0	£50 5 0
,, per acre per week	8¼	10	1 1½	7½
,, per acre per year	£1 15 10	£2 3 4	£2 18 2	£1 12 5

Barns of Claverhouse Scheme, near Dundee.—This estate was given by Mr Bonnar, a Dundee jute merchant, in September 1934 to the Department of Agriculture for Scotland for settlement by unemployed men. It is situated about three miles from the centre of the city and comprises 400 acres of fertile loam. Of this area, 194 acres have been divided into 1-acre plots, 177 of which were occupied by the end of the year, while from the remainder, 22 holdings have been formed, 21 ranging from 5¾ to 9½ acres, and one mixed arable holding of 45 acres in extent. The large holding was created so that the occupier could undertake a certain amount of cartage for the other members of the colony. The smaller holdings produced poultry, pigs and market-garden produce.

From an acre of good land it is possible to produce a considerable quantity of vegetables, and market gardeners in the neighbourhood of Dundee are anxious as to the effect on the local market of the sale of the surplus production from the colony, particularly if it was hawked round the city. While existing producers may have a legitimate grievance in being asked to compete with what is in effect subsidised production, it should be possible, as the scheme proceeds, to meet this difficulty, either by decreasing the size of each plot or by regulating the sale of produce. As the estate is a gift, rents are lower than on holdings where the land has been purchased.

[1] Data supplied by Department of Agriculture for Scotland.

On the Barns of Claverhouse estate, a communal hut has been erected for every 19 men. The hut is furnished with a stove and divided into 19 bays, each of which is capable of storing a sack of manure and the tools of the cultivators. A hut committee, responsible for the good behaviour of the plot-holders, has been elected for each group ; the Chairman of the Committee is a member of a central committee which considers joint action for the colony. This sectional organisation of the colony tends to foster a competitive spirit between the different groups and to stimulate competition in the cultivation of the holdings. Moreover, the delegation of authority by vote to certain individuals should, by giving them responsibility, have a valuable psychological effect in assisting them to recover their sense of citizenship. As the chairman of each group committee can collect the rent and any other charges from the group on behalf of the Department, the method has also a practical advantage.

SUMMARY OF CONCLUSIONS

HAVING considered the problem of full-time settlement in this country, the following facts emerge :—

(1) That under existing economic conditions settlement on the land offers little hope of creating new employment; it is likely to lead to displacement of labour elsewhere, and/or a general reduction in the standard of living of those already engaged in agriculture.

(2) That the restriction of agricultural imports will lead to a decline in exports and increased unemployment, mainly in the depressed areas.

(3) That it is a fallacy to expect a large net increase in agricultural employment by stimulating consumption in a certain direction, as, unless spending power increases at the same time, this increased consumption will be at the expense of some other commodity.

(4) That when supply and demand are out of adjustment, the condition may be described as either overproduction or as underconsumption, according to the angle from which it is approached. The condition, however, cannot be corrected by increased production, but only by an increase in "effective" demand. Consumption can only be increased (*a*) by lowering prices through more efficient production, and so bringing the commodities produced within the reach of lower-income groups, and/or stimulating consumption among existing consumers, or (*b*) by increasing the purchasing power of consumers.

(5) That while restriction of certain imports, *e.g.* bacon, eggs and vegetables, may enable holdings of the 3-5 acre type to carry on successfully for a time, they will eventually come into direct competition with more economic units of production in the country, against which they will be unable to compete.

(6) That in the case of pig, poultry and egg production, the 3-5 acre specialist or semi-specialist holding is inherently unstable as a result of its complete dependence on the world price of feeding stuffs.

(7) That there is at the moment a very definite overproduction of the main vegetable crops in this country.

(8) That the possible expansion of production in vegetables of the luxury type is limited by reason of the expensive nature of the final product.

(9) That settlement by the County Councils during the last few years appears to have been carried out as rapidly as is justified by economic conditions, and the rate of settlement is likely to increase as soon as conditions improve. It has also been organised efficiently.

(10) That if Land Settlement, for reasons other than economic, is considered desirable in this country, either imports of agricultural produce must be restricted and/or home production must be heavily subsidised.

(11) That in the interests of the consumer national reorganisation of production should precede any restriction of imports, so that home production might, as far as possible, be as efficient as in exporting countries.

(12) That the mixed family farm of 30-50 acres, on account of a flexibility of organisation which enables it to adapt itself to sudden price changes, and of the capacity of the family to live off the holding during a period of low prices, is the most suitable unit of settlement.

(13) That if holdings of the 3-5 acre specialist or semi-specialist type are to be settled, considerable economies will be effected by settlement on a co-operative basis.

(14) That the production of pigs, poultry, eggs, and crops under glass and certain types of vegetables are the most suitable enterprises for the 3-5 acre holding.

(15) That in respect of unemployed industrial workers, particularly in rural areas, holdings of the subsistence type of half to one acre in extent, providing poultry, vegetables and eggs for the family as a supplement to unemployment relief, offer considerable opportunity for further expansion, and are highly beneficial in their effect. The arguments in favour of this type of holding may be enumerated as follows :—

i. The quality of the land, provided it is not too heavy or too light, is of secondary importance.

ii. It should be possible to rent land in the vicinity of the men's homes, and no houses need be built.

iii. Such holdings will provide mental and physical exercise.

iv. Unemployed families will be better fed.

v. Production on these holdings will not disturb existing markets, as the unemployed are too near subsistence level to buy any large amount of vegetables and eggs.

vi. Mobility of labour will be maintained.

It is recommended that holdings of this type should be established as rapidly as possible.

APPENDIX A

Value of Imports in 1933 of Agricultural Produce similar to that produced in the United Kingdom

Wheat	£31,000,000	
Barley	4,000,000	
Oats	1,000,000	
Peas and Beans	2,000,000	
Wheat Meal and Flour	3,500,000	
Cereal Products	2,000,000	
Cereal Products entered as Feeding Stuffs for Animals	3,000,000	
Total Cereals		£46,500,000
Bacon	£30,000,000	
Beef	28,000,000	
Mutton and Lamb	16,000,000	
Hams	3,000,000	
Pork	3,000,000	
Rabbits and Other	1,000,000	
Total Meat		£81,000,000
Butter	£34,000,000	
Cheese	8,000,000	
Milk (separated, skimmed and condensed)	3,000,000	
Total Dairy Products		£45,000,000
Apples	£7,000,000	
Pears	1,500,000	
Plums and Small Fruit	1,000,000	
Tomatoes	4,000,000	
Potatoes	2,000,000	
Onions	1,000,000	
Flowers, Bulbs, Plants and Seeds	2,000,000	
Fruit in Sugar and Jam	4,000,000	
Total Market Garden Produce		£22,500,000
Eggs (in shell)	£7,000,000	
Eggs (not in shell)	2,000,000	
Poultry	2,000,000	
Total Poultry and Eggs		£11,000,000
Grand Total		£206,000,000

APPENDIX B

Replies received from County Council Land Agents in answer to a Questionnaire

Section 1. Out of the 45 Land Agents in England and Wales who gave detailed information concerning the most successful size and type of holding, 22 stated that the dairy farm of 20-50 acres had been undoubtedly the most successful during the last five years; and a further 20 made the same claim for mixed holdings, partly grass and partly arable, of a similar size. In the case of Worcester, the Land Agent stated that up to five years ago market gardens were thriving best, but that this branch of agriculture had been much overdone, and the mixed farm was now the most successful. The two Land Agents of Lancashire and Nottingham stated that the 3-4 acre poultry holding and the part-time pig, poultry and vegetable allotment respectively were the most successful in their districts; in the Isle of Ely, part-time holdings of 3 acres and full-time holdings of 20 acres and over appeared to be more successful than intermediate areas. Forty-two Land Agents, therefore, out of 45, indicated that the 20-50 acre holding—either dairy or mixed arable and grass—had been in recent years the most successful size and type.

County	What are the most common types and sizes of holdings in your district?	What size and type of holding has been most successful during the last five years?
ENGLAND		
Bedford	Market gardens comprise about half the total area. The remainder is chiefly in mixed holdings.	Mixed holding of about 50 acres where a father and two sons or three brothers work the holding with little or no hired labour.
Buckingham	Mixed dairy holding, with small area of arable. Usually about 50 acres.	Mixed dairy holding of about 50 acres.
Cambridge	30-50 acre fully equipped mixed arable holding, and market gardens of 3-20 acres.	40-50 acre mixed holdings.
Cheshire	35-50 acre dairy holdings.	Dairy holdings of 35 acres and upwards.
Cornwall	Mixed holdings of 25-50 acres represent about 50 per cent. of total number, and dairy holdings of the same size about 40 per cent.	The 30-50 acre fully equipped holding, mostly dairying.

County	What are the most common types and sizes of holdings in your district ?	What size and type of holding has been most successful during the last five years ?
ENGLAND (cont.)		
DERBY . .	Market gardens 4-12 acres and dairy holdings 30-50 acres.	Dairy holdings.
DEVON . .	In N. Devon the mixed holding ; elsewhere, 40-50 acre dairy farm and market gardens of 2-10 acres.	Dairy and mixed holdings, 40-50 acres, and then market garden holdings which have been established for at least ten years.
DORSET . .	Dairy holdings of 40-50 acres.	The all-pasture 40-50 acre holdings.
DURHAM . .	Dairying and mixed farms of 50 acres.	50-acre dairying.
ESSEX . .	Fully equipped mixed holdings of 50 acres and 5 acres fruit and market garden holdings.	Fully equipped mixed holding.
GLOUCESTER .	. .	Bare-land holdings invariably present difficulties and the number of these is being decreased. Poultry-keeping and glass for the production of early plants, fruits and flowers are aids to success.
HAMPSHIRE .	Dairy holdings of 30-50 acres and market gardens of 1-10 acres.	Dairy holdings of 30-50 acres.
HEREFORD .	Dairying and mixed farming from 35-50 acres with 7-10 acres arable.	Holdings from 35-50 acres fully equipped with house and buildings.
HERTFORD .	Mixed farming, from 40-50 acres, with suitable buildings for cows, pigs and poultry.	Mixed farms of 40-50 acres.
HUNTINGDON .	On fen land, arable holdings of 20-50 acres, growing wheat, potatoes, sugar beet, other cereals, carrots, celery, etc. On bare land, fruit holdings (1-5 acres) producing top and soft fruits.	25-50 acres fully equipped fen land.

County	What are the most common types and sizes of holdings in your district?	What size and type of holding has been most successful during the last five years?
ENGLAND (cont.)		
Isle of Ely	3-5 acres in a part-time holding is the most usual area, with a certain number of holdings of 20-40 acres. Tenants depend on sugar beet and potatoes, and many keep a few pigs.	Holdings of 3 acres and 20 acres and over appear to be more successful than intermediate areas.
Isle of Wight	About 30 acres of dairying or dairying plus market garden.	Dairy holdings where the smallholder has had previous agriculture experience, is a hard worker and has a helpful wife.
Lancaster	3-4 acre poultry holdings, also market gardens.	3-4 acre poultry holdings.
Leicester	50 acre milk farm.	50 acre milk farm, with cow-sheds for 14 cows. A smaller area does not now support a man, except in cases of market gardens and poultry farms.
Lincoln (Holland)	1-10 acres bare land, for part-time holders; otherwise, mixed holdings of 25-35 acres.	Equipped holdings of 25-35 acres and bare-land holdings up to 5 acres, all on the best land.
Lincoln (Kesteven)	..	50 acre mixed arable (10 acres grass) with house and buildings, 2 horses, 2 or 3 cows, some young beasts, pigs and poultry. Grass-land is practically unlettable.
Lincoln (Lindsey)	Arable holdings in the Fen and Isle of Axholme. Mixed farming on the Cliffs and Wolds.	Mixed arable from 30-50 acres.
Norfolk	Mixed arable, 40-50 acres, market garden 4-5 acres.	40-50 acres mixed arable.
Northampton	Market garden 5 acres, poultry 10 acres.	Mixed farm of 50 acres, one-third arable, combining dairying, pigs, poultry, and rearing of young stock.

County	What are the most common types and sizes of holdings in your district ?	What size and type of holding has been most successful during the last five years ?
ENGLAND (cont.)		
NOTTINGHAM .	Part-time, pig, poultry and vegetables, of about 1 acre; mixed arable and dairying.	Part-time, pig, poultry and vegetable holdings of about 1 acre.
SHROPSHIRE .	Dairy--30-40 acres.	Dairy--30-40 acres.
SOMERSET .	Dairy holdings of 30-50 acres. Poultry industry on scientific lines has increased largely during the last three years.	Dairy holdings of 40-50 acres.
STAFFORD .	Dairy holdings of 25-50 acres, poultry holdings of 5-14 acres.	30-acre dairy holding.
SUFFOLK--EAST	Mixed arable of 30-75 acres.	Largest sized, mixed arable, 50-75 acres.
SUFFOLK--WEST	Market garden holdings of 5-10 acres in the north-west; elsewhere 50-80 acre mixed arable, combining pigs, poultry and dairying.	Fully equipped holding of 50-80 acres.
SURREY . .	Grass-land dairy holdings of 40-50 acres in the Weald, and 1-5 acre market gardens and fruit holdings near towns.	Grass-land dairy holdings of 40-50 acres, and 1-5 acre market gardens. Milk Marketing scheme had adversely affected the small milk producer.
SUSSEX--EAST	Milk production on 25-50 acre holdings and market garden and/or poultry and pigs on 1-7 acre holdings.	No one type can be singled out as being the most successful. As a general rule, the unequipped holding is the least satisfactory.
SUSSEX--WEST	Mixed arable associated with dairying.	Dairying and poultry.
WARWICK .	40-50 acre dairying and stock rearing, with 25 acre market garden in the south-west, near Evesham.	Fully equipped holdings of about 50 acres, mostly grass.
WILTSHIRE .	Milk production on 35-50 acres.	40-50 acre dairy holding on good pasture land and equipped with house and buildings.

County	What are the most common types and sizes of holdings in your district ?	What size and type of holding has been most successful during the last five years ?
ENGLAND (cont.)		
WORCESTER .	Market gardening on 2-3 acres and then 35-50 acre mixed farm with house and farm buildings.	Up to five years ago the market garden smallholders were the most successful, but this branch has been very much overdone, and the mixed farm is now doing the best.
YORKSHIRE—EAST RIDING	50-acre holdings, dairying or mixed arable.	Dairy holdings did best until the Milk Marketing Board began; poultry and market garden holdings have been fairly successful under the right tenants.
YORKSHIRE—NORTH RIDING	20-30 acre dairy or mixed arable holding.	50-acre mixed holding.
WALES—		
CARNARVON .	Mixed farms of about 45 acres and a few dairy farms of about 20 acres.	Dairy farms of about 20 acres.
CARDIGAN .	Mixed farming, with breeding of store stock.	30-40 acre holding adjoining an urban area.
CARMARTHEN .	Production of whole milk combined with poultry.	50-acre dairy holding, selling whole milk. Owing to the slump in store cattle prices, butter making with rearing of young calves has practically stopped.
FLINT . .	Dairying, poultry and eggs, on holdings of 8-50 acres.	Holdings of 30-50 acres.
GLAMORGAN .	Dairy holdings of 30-50 acres, pig and poultry on 5-10 acres and market gardening on 3-5 acres.	Dairy holdings of 30-50 acres have proved far and away the most successful.
MERIONETH .	Mixed arable and dairying holdings of about 25 acres.	A good-sized dairy farm.

County	What are the most common types and sizes of holdings in your district ?	What size and type of holding has been most successful during the last five years ?
WALES (cont.)		
MONMOUTH .	Dairy holdings of 50 acres, then mixed farming combined with some market gardening.	Dairy holdings of 50 acres, selling milk either wholesale or retail.
MONTGOMERY .	Grass holdings for rearing livestock, but lately many have turned to milk production.	40-50 acre holding, where the tenant can carry on by himself or only employ a lad. Cottage holdings are successful where a fair amount of outside work can be obtained.

SECTION 2. The number of applicants for smallholdings, as given by the Land Agents, totals rather over 3000, but, as two Land Agents point out, a large number of those whose names are on the books as applicants have probably themselves given up the idea of taking a smallholding, and others would be found to be unsuitable. On the other hand, Land Agents state that when a smallholding falls vacant, there is a renewed demand from persons in that locality, so there is clearly a considerable unsatisfied demand for holdings, particularly near depressed areas; Monmouth and Durham are stated to have a combined total of 900 applicants on their books.

Eleven Land Agents state that there is a tendency for demand to be concentrated on larger holdings. Near depressed areas, however, in Durham and Stafford, there is a large demand for the smaller holdings, and in Nottingham the demand is increasing for the small type holding equipped with a house and buildings for pigs and poultry, etc. In Caernarvon, demand is said to be in favour of the smaller holdings, and this is explained by the lack of the capital required to stock and run a larger acreage.

County	How many applicants for holdings are on your books ?	Has there been any appreciable change during the past five years, in the size and type of holding required ?
ENGLAND-		
BEDFORD .	About 10. These will be met from time to time as holdings are given up.	Only a slight tendency towards amalgamation on the poorer land.

County	How many applicants for holdings are on your books ?	Has there been any appreciable change during the past five years, in the size and type of holding required ?
ENGLAND (cont.)		
BUCKINGHAM .	During the past few years an average of 30 applicants.	Applications for the part-time holding are very seldom met with now, and a large number of existing holdings of this type have been given up by tenants.
CHESHIRE .	95.	No appreciable change has been noted.
CORNWALL .	78.	Accommodation holdings are not now in demand; fully equipped holdings of 30-50 acres are the most popular.
DERBY . .	130.	The demand for market garden holdings has somewhat died out.
DEVON . .	89, but I cannot say how many of these would be approved by the Committee.	No appreciable change has been noted.
DORSET . .	45.	The tendency has been for larger holdings. The demand for areas under 10 acres is very small.
DURHAM . .	There are 509 applicants for 7049 acres.	Holding applications are now resolved into two types : (*a*) 50-60 acre dairy holding : (*b*) 5-acre pig, poultry, glass-house.
GLOUCESTER .	..	There is a steady demand which shows little change for full-sized equipped holdings suitable for dairying. There is also a steady demand for smaller holdings of 5-20 acres with house and buildings.

County	How many applicants for holdings are on your books ?	Has there been any appreciable change during the past five years, in the size and type of holding required ?
ENGLAND (cont.)		
HAMPSHIRE .	There are 135 applicants for 1266 acres.	There is a tendency for demand to increase for the larger dairy holdings. Bare-land holdings are going out of favour.
HEREFORD .	Over 100.	Bare-land holdings are definitely not required.
HERTFORD .	32.	No appreciable change has been noted.
HUNTINGDON .	5.	No appreciable change has been noted.
ISLE OF ELY .	175.	No appreciable change has been noted.
ISLE OF WIGHT	One.	The demand for small holdings has fallen off appreciably. Holdings of about 20-30 acres let most readily.
LEICESTER .	There are practically no applicants on the list, although it is not generally difficult to let a farm coming vacant.	There is a tendency for smallholdings to increase in size. There is no demand for farms under 40 acres, and small blocks of land becoming vacant are generally divided amongst the adjoining tenants. There is little, if any, demand for poultry and pig farms over 10 acres.
LINCOLN (Holland)	There are 380 applicants, most of whom are waiting for a holding on a particular farm near their homes.	Equipped holdings of 25-35 acres have been most in demand, apart from bare-land holdings. Applicants are now much more particular as to the class and amenities of a holding.
LINCOLN (Kesteven)	There are 21 applicants for 886 acres.	No appreciable change has been noted.
LINCOLN (Lindsey)	4.	No appreciable change has been noted.

County	How many applicants for holdings are on your books ?	Has there been any appreciable change during the past five years, in the size and type of holding required ?
ENGLAND (cont.)		
NORFOLK	There are 128 applicants for 2080 acres.	There has been a larger demand for complete holdings, fully equipped with house and set of buildings.
NORTHAMPTON	None.	A larger type of holding is now required than formerly.
NOTTINGHAM .	93.	Demand is increasing for small size pig and poultry holdings with house, etc., if possible.
SHROPSHIRE .	91.	No appreciable change has been noted.
SOMERSET. .	91.	The holdings tend to increase in size and more building equipment is required.
STAFFORD .	A large number, but for some time we have not encouraged applications except when land is available.	There has been no appreciable change in the size and type of holding required ; we still have a large demand for cottage holdings, but cannot find many satisfactory tenants for them.
SUFFOLK—EAST	33.	No appreciable change has been noted.
SUFFOLK—WEST	71.	No appreciable change has been noted.
SUSSEX—EAST	51. On interview, however, probably 75 per cent. of these will prove unsuitable or will be found to have themselves given up the idea of taking a small-holding. Whenever a holding becomes available, there is always a renewed demand from the locality concerned.	No appreciable change has been noted.

County	How many applicants for holdings are on your books ?	Has there been any appreciable change during the past five years, in the size and type of holding required ?
ENGLAND (cont.)		
SUSSEX—WEST	3.	No appreciable change has been noted.
WARWICK	56.	Unequipped accommodation land is not in such demand as had been the case prior to and just after the war.
WILTSHIRE	There are 25 applicants for 730 acres.	No appreciable change has been noted.
WORCESTER	There are not half a dozen applicants.	No one will now take an unequipped holding, except market gardening ones, and there is now a demand for a small pasture holding (no arable).
YORKSHIRE—EAST RIDING	None.	There is a greater demand for the smaller type of holding of 5-10 acres with house and buildings, and there is no demand for accommodation holdings.
YORKSHIRE—NORTH RIDING	Very few, but when suitable holdings are advertised, the demand is fairly satisfactory.	No appreciable change has been noted.
WALES—		
CARDIGAN	6.	No appreciable change has been noted.
CAERNARVON	None.	The tendency in demand has been for the smaller holdings, probably owing to the lack of capital required to meet the ingoing valuation and to stock the larger farms.

County	How many applicants for holdings are on your books ?	Has there been any appreciable change during the past five years, in the size and type of holding required ?
WALES (cont.)		
CARMARTHEN .	15. When the County Council buys an estate, there is no dearth of good applicants, particularly after the buildings have been erected.	There has been no appreciable change. The dairy holding has always been the most attractive.
FLINT . .	79.	During the last two or three years there has been an increased demand for the smaller type of holding of 5-10 acres.
GLAMORGAN .	35, but the list is valueless as an indication of persons desiring holdings.	There has been no appreciable change. The demand for (*a*) large type - dairying and mixed : and (*b*) small type - pig, poultry and market garden — has been about equal.
MERIONETH .	2.	There has been no appreciable change in demand. The Council has not had an application for a market garden holding for over twenty years.
MONMOUTH .	There are 432 applicants for smallholdings, and 12 for cottage buildings.	No appreciable change has been noted.
MONTGOMERY .	260, more than half of whom are really good, with plenty of capital and experience.	No appreciable change has been noted.

SECTION 3. Twenty Land Agents stated that co-operation among their tenants had failed, and gave various reasons ; the most common of which are (*a*) the innate individualism of the agriculturist, and (*b*) the jealousy and suspicion of neighbours. Fifteen Land Agents stated that co-operation had not been tried on any scale in their county. In Warwickshire four small co-operative societies out of six begun are still in existence ; Worcester has two co-operative societies for the sale of market

garden produce; and Carmarthen is served by the Carmarthen Farmers' Co-operative Society, a large organisation for the purchase of requisites, and by other smaller societies; in Cambridge, co-operation has been fairly successful for the purchase of supplies but has failed completely in the marketing of produce.

County	Is it correct to say that co-operation in your group has failed? If so, why is this the case?
ENGLAND	
Bedford . .	Yes. No opinion as to the reason, unless it be innate individualism.
Buckingham .	Yes. Impossible to obtain, their preference being for complete independence.
Cambridge . .	Co-operation in buying has been fairly successful. Co-operation in selling a complete failure.
Cheshire . .	Yes. Natural suspicion of all who are intimately connected with the soil.
Cornwall . .	Co-operation has never really been tried on the Council's holdings, as they are so far apart.
Derby . . .	It has only been tried in two small cases, and neither has been a great success.
Devon . .	Yes. Co-operation does not appeal to the Devon smallholder.
Dorset . .	Yes. Holders are too individualistic in their outlook.
Durham . .	No. Two of our most successful cases are estates let direct to co-operative smallholding societies.
Hampshire . .	Four co-operative societies are still running two have failed. In one case failure was probably due to lack of co-operative spirit. In the second case, to other circumstances.
Hereford . .	A certain amount of co-operation where the number of smallholdings is limited to 4 or 5 in one group. In larger groups of 20-30 tenants there is not only a lack of co-operation, but also jealousy exists. The energetic and successful smallholder becomes the envy of less energetic and inefficient, with the result that friction occurs. After nearly twenty years' experience, it is my considered opinion that it is not advisable to create a large number of smallholdings in a limited area.

County	Is it correct to say that co-operation in your group has failed? If so, why is this the case?
ENGLAND (cont.)	
HERTFORD . .	Yes. Farmers never will co-operate.
HUNTINGDON .	Yes. Tenants are very individualistic in all matters. Organised co-operation has not been attempted, but I am convinced it would be a failure with our tenants.
ISLE OF ELY . .	Smallholders here rely almost entirely on beet and potatoes, and any co-operative scheme would be very difficult to put into practice in view of the fact that some holdings are very much better farmed than others, and the produce of a higher grade.
ISLE OF WIGHT .	There has been very little co-operation among the smallholders.
LANCASTER . .	Yes. Neither buying nor selling co-operatives have proved successful, owing to mutual suspicion and risk of bad debts.
LEICESTER . .	Co-operation has not been tried in an organised way. Chief smallholding industry is milk, and there are four or five large wholesale milk farms who collect milk from the farms by lorry. Generally, therefore, there is not the need for co-operation that there is in some counties. Certain groups of tenants do co-operate in a small way in buying feeding stuffs and manure, and in keeping a bull.
LINCOLN (Holland)	The question has been discussed with tenants on several occasions, but has been coldly received. Tenants prefer to purchase and sell in the market themselves, and keep their business private.
LINCOLN (Kesteven)	Where holdings are scattered, or in small colonies, the number is too small for co-operative markets, etc. Purchases made on credit through local merchants are preferred to cash transactions on co-operative lines. Poultry keepers to some extent market eggs to packing stations, and may join Co-operative Associations such as the Scientific Breeding Association for purchase of goods.
LINCOLN (Lindsey) .	Yes. Objection by the individual to co-operate.
NORFOLK . .	Yes. (*a*) Individuality of smallholders. (*b*) Difficulty of organisation.

County	Is it correct to say that co-operation in your group has failed? If so, why is this the case?
ENGLAND (cont.)	
NORTHAMPTON .	Yes. Disagreement as to methods of management.
NOTTINGHAM . .	There is no co-operation between the smallholders, and it is useless to try to advocate it, except where there are a large number of tenants farming on the same lines in the same districts.
SHROPSHIRE . .	It has not generally been tried in this county.
SOMERSET . .	There appears to be very little desire for a general form of co-operation. In one instance only (on an estate of 2500 acres) a smallholding Co-operative Society has been formed to assist tenants in marketing and in the purchase of foodstuffs, etc., and for several years the Society has been most successful and helpful. Co-operation as regards use of implements, etc., is regarded as impracticable.
STAFFORD . .	Yes. Human nature—if not in the men—in their wives.
SUFFOLK—EAST .	Yes, generally. Smallholders appear to prefer to work independently, but in one district a Co-operative Purchase Society has been formed, without really tangible results.
SUFFOLK—WEST .	Yes. The desire of the smallholder who has been an employee is for independence, and he prefers to rely on his own initiative.
WARWICK . .	Yes.
WILTSHIRE . .	It does not appear to have been a success. Most smallholders prefer to buy and sell on their own.
WORCESTER . .	Except in areas of Evesham and Pershore, there is no co-operation of any kind amongst the smallholders. I do not think it can be said to be a complete failure in these cases, although it has not been the success one would have hoped for.
YORKSHIRE—EAST RIDING.	Yes. Usually jealousy of neighbours and mistrust of any one to do business on behalf of the tenants.
YORKSHIRE—NORTH RIDING.	Yes. Except they assist one another in the lending of implements and on threshing and other busy days.

County	Is it correct to say that co-operation in your group has failed? If so, why is this the case?
WALES—	
CAERNARVON . .	Co-operatives have not had a proper trial in this county.
CARDIGAN . .	Holdings are too scattered.
CARMARTHEN .	Co-operatives for requisites have been an outstanding success—there are many societies of 25-33 years' standing, and they have been an inestimable boon to smallholders.
FLINT . . .	Little co-operation in buying and selling. Tenants are much too individualistic in their views, and it is not a very easy matter to get them to co-operate.
GLAMORGAN . .	Yes. human elements. Distrust, rivalry and secrecy, and consequent antagonism.
MERIONETH . .	There is a lack of co-operation in this county.
MONMOUTH . .	It has not been tried, and it would be likely to fail, owing to strongly individualistic tendencies, and the failure to give the very high degree of loyal support which would be required.
MONTGOMERY .	The tenants are undoubtedly individualists, and there is no indication that co-operatives will take on here for a long time yet.

SECTION 4. Out of 18 Land Agents who gave detailed replies to the question, "What percentage of non-agricultural ex-service men settled under the 1919 Act were (*a*) highly successful, (*b*) moderately successful, (*c*) unsuccessful?" 15 stated that over half of such smallholders in their district could be placed in the third class. In Devon and Dorset the percentage of failures was 20 and 40 respectively, while the percentage of the total who were moderately successful was 60 and 50 respectively. In Durham 70 per cent. of non-agricultural ex-service men were said to be highly successful, and only 5 per cent. to have failed. The main reason for failure is stated to be inexperience and lack of practical knowledge; shortage of capital, the fall in prices from 1920 and lack of adaptability are given as contributory causes.

County	What percentage of non-agricultural ex-service men settled under the 1919 Act were (*a*) highly successful, (*b*) moderately successful, (*c*) unsuccessful ?	What was the main reason for lack of success ?
ENGLAND—		
Bedford .	(*a*) 5 per cent., (*b*) 40 per cent., (*c*) 55 per cent.	Lack of experience and a continuous decline in prices and conditions.
Buckingham .	..	Generally speaking, "afraid of work," inexperience, and/or lack of capital.
Chesuire .	A very small percentage have proved successful.	The wasting of their available capital.
Cornwall .	No records were kept, but only one trainee has proved successful.	
Derby . .	The Committee was most particular in putting only those men on the land who had agricultural experience.	
Devon . .	(*a*) 20 per cent., (*b*) 60 per cent., (*c*) 20 per cent.	Lack of capital and experience.
Dorset . .	(*a*) 10 per cent., (*b*) 50 per cent., (*c*) 40 per cent.	Lack of experience, lack of capital and falling prices.
Durham . .	(*a*) 70 per cent., (*b*) 25 per cent., (*c*) 5 per cent.	Lack of experience, and lack of aptitude to rural conditions, but mainly to lack of capital.
Hereford .	The only failures that have occurred were of men not used to farming. Before letting a holding to-day, the Committee insists that a tenant shall satisfy them that he is an agricultural worker.	

County	What percentage of non-agricultural ex-service men settled under the 1919 Act were (*a*) highly successful, (*b*) moderately successful, (*c*) unsuccessful ?	What was the main reason for lack of success ?
ENGLAND (cont.)		
HERTFORD .	..	The main reason for lack of success, whether the men were ex-service or not, was lack of experience and lack of sufficient capital.
HUNTINGDON .	(*a*) nil, (*b*) 5 per cent., (*c*) 95 per cent.	The tremendous slump in prices from 1920 and to lack of agricultural knowledge and acumen.
ISLE OF ELY .	..	Ex-service applicants who lived in our towns were hardly ever successful. Inexperience and lack of time to attend to their holdings (part-time holdings).
ISLE OF WIGHT	..	Insufficient agricultural experience, whether ex-service or otherwise.
LEICESTER .	Difficult to estimate, as the unsuccessful men have left.	(*a*) Lack of experience, including a lack of ability to make a good bargain and to deal with the commercial world generally, (*b*) lack of capital, and in this respect it is felt that the loans are a hindrance rather than a help.
LINCOLN (Holland)	All 4 non-agricultural ex-service men settled have been unsuccessful.	Lack of essential knowledge.
LINCOLN (Kesteven)	No non-agricultural ex-service men were settled.	

County	What percentage of non-agricultural ex-service men settled under the 1919 Act were (*a*) highly successful, (*b*) moderately successful, (*c*) unsuccessful ?	What was the main reason for lack of success ?
ENGLAND (cont.)		
LINCOLN (Lindsey)	About 3 per cent. of ex-service men settled under the 1919 Act were non-agricultural and none were successful.	Lack of practical knowledge.
NORFOLK .	Between 1920-24, 345 ex-service men failed, though some had previous agricultural experience.	(*a*) Insufficient capital, (*b*) insufficient agricultural experience, (*c*) rapid fall in prices.
NORTHAMPTON	All non-agricultural ex-service men settled under the 1919 Act have failed.	Lack of capital and experience.
NOTTINGHAM .	(*a*) Nil, (*b*) 10 per cent., (*c*) 90 per cent.	(1) Lack of knowledge. (2) Lack of capital. (3) Lack of industry.
SHROPSHIRE .	Very few holdings under the 1919 Act.	
SOMERSET .	Very few non-agricultural men have applied for holdings.	Lack of experience and capital.
STAFFORD .	(*a*) 5 per cent., (*b*) 10 per cent., (*c*) 85 per cent.	(*a*) The unsettling effect of the war, (*b*) falling prices, (*c*) lack of capability to manage and of initiative, which has been ruined by generations being told what to do and when to do it, (*d*) the fact that they and their wives had been used to having so much per week to spend and could not adapt themselves to a varying income.

County	What percentage of non-agricultural ex-service men settled under the 1919 Act were (*a*) highly successful, (*b*) moderately successful, (*c*) unsuccessful?	What was the main reason for lack of success?
ENGLAND (cont.)		
SUFFOLK—EAST	(*a*) 25 per cent., (*b*) 25 per cent., (*c*) 50 per cent.	Lack of experience.
SUFFOLK—WEST	Practically none in (*a*) or (*b*).	Lack of knowledge and absence of agricultural bias.
SUSSEX—EAST	Question whether, with very rare exceptions, a non-agricultural man and his wife have ever been successfully settled on the farm.	In the case of ex-service men one of the main reasons for failure was ill-health.
SUSSEX—WEST	(*a*) 5 per cent., (*b*) 40 per cent., (*c*) 55 per cent.	Lack of capital and lack of experience.
WARWICK	Only a very small number of non-agricultural men were settled in this county.	
WILTSHIRE	Majority of non-agricultural ex-service men were not successful.	Lack of experience, and in many cases they lost their capital.
WORCESTER	The only non-agricultural men settled were five trainees, under the Government scheme for training ex-soldiers; four of these failed within two years.	Lack of knowledge and experience.
YORKSHIRE—EAST RIDING	(*a*) 10 per cent., (*b*) 20 per cent., (*c*) 70 per cent.	Lack of knowledge and disinclination to settle down to work and to a country life. The large depreciation in capital invested in stock also disheartened many of them.
YORKSHIRE—NORTH RIDING	Very few non-agricultural ex-service men were settled, but most were unsuccessful.	Lack of practical knowledge in working the land and in buying and selling stock, etc.

County	What percentage of non-agricultural ex-service men settled under the 1919 Act were (*a*) highly successful, (*b*) moderately successful, (*c*) unsuccessful?	What was the main reason for lack of success?
WALES–		
CAERNARVON .	Only 2 non-agricultural ex-service men were settled in 1919 and both were unsuccessful.	Inexperience and physical unsuitability for farm work.
CARDIGAN .	No such men were settled.	
CARMARTHEN .	All ex-service men who were settled under the 1919 Act had had experience in a variable degree of farming and land work and have on the whole succeeded.	
FLINT . .	Only 5 such men were settled and all failed.	Inexperience, lack of capital and lack of interest in their work.
GLAMORGAN .	(*a*) none, (*b*) 5 tenants, (*c*) 33 tenants.	Lack of experience in general management, in cultivation of land, and in adaptability to agricultural conditions.
MONMOUTH .	(*a*) 24 per cent., (*b*) 18 per cent., (*c*) 58 per cent.	Lack of sufficient capital to stock and work the holding, and lack of practical experience, energy and enterprise.
MONTGOMERY .	Only 2 or 3 were settled of this type, and they have not done badly on 5-acre part-time holdings.	

SECTION 5. The percentage of tenants of the County Council Estates who are part-time holders varies from 5 per cent. in Dorset, Somerset and East Suffolk, to 75 per cent. in the Isle of Ely and 60 per cent. in the Holland division of Lincoln. The most common figures seem to be between 15 per cent. and 25 per cent. The size and type of holding occupied by part-time men also show a great variation; in most counties they are stated to occupy mainly holdings of 5 acres or less, on which they maintain pigs or poultry and do some market gardening, and also

accommodation fields of a few acres. In some counties, however, for example in Devon, Worcester and the Welsh counties, they are stated to occupy fully equipped smallholdings, of 10 acres and upwards.

County	What percentage of your tenants are part-time smallholders?	What size and type of holding do they occupy?
ENGLAND—		
BEDFORD .	30 per cent.	1-3 acres of market garden land.
BUCKINGHAM .	Only a small number.	Up to 20 acres, for young stock, poultry or pigs.
CHESHIRE .	Negligible.	Cottage holdings up to 5 acres.
CORNWALL .	20 per cent.	From 10-20 acres.
DERBY . .	10 per cent.	From 4-5 acres.
DEVON . .	30 per cent.	About 10 acres as accommodation land; up to 25 acres for dairying and rearing of cattle.
DORSET . .	5 per cent.	5-15 acres of pasture.
DURHAM .	15 per cent.	2-3 acre poultry holdings.
HAMPSHIRE .	About 33 per cent.	1-3 acres for fruit, vegetables and poultry.
HEREFORD .	Very few.	
HERTFORD .	20 per cent.	Unequipped land or holdings with cottage and buildings up to 5 acres.
HUNTINGDON .	25 per cent.	5-10 acres of arable fen land, or 1-5 acres fruit land.
ISLE OF ELY .	About 75 per cent.	
ISLE OF WIGHT	..	4-20 acres on the average.
LEICESTER .	15 per cent.	Nearly all grass-land.
LINCOLN (Holland)	66 per cent.	1-10 acres, generally growing potatoes, corn and beet, but fruit in the south of the county.

County	What percentage of your tenants are part-time small-holders ?	What size and type of holding do they occupy ?
ENGLAND (ctd.)		
LINCOLN—		
(Kesteven)	25 per cent.	Usually an allotment.
(Lindsey) .	Hardly any.	5-10 acres near villages.
NORFOLK .	About 15 per cent.	Bare-land holdings under 10 acres and market gardens.
NORTHAMPTON	25 per cent.	Accommodation and dairy holdings.
NOTTINGHAM .	60 per cent.	The majority are miners, occupying 1-5 acres for pigs, poultry and vegetables.
SHROPSHIRE .	..	Cottage holdings of 1-5 acres.
SOMERSET .	About 5 per cent.	Small poultry farm, market garden or pasture. A number occupying small areas own or occupy other land.
STAFFORD .	25 per cent.	Cottage holdings of 1-3 acres.
SUFFOLK—EAST	5 per cent.	A few acres of bare land, or a small equipped farm.
SUFFOLK—WEST	About 10 per cent.	1-3 acres.
SUSSEX—EAST	..	1-5 acres is most common.
SUSSEX—WEST	10 per cent.	1-5 acres.
WARWICK .	About 33 per cent.	Market gardens up to 5 acres, other holdings up to 15 acres.
WILTSHIRE .	Not more than 10 per cent.	
WORCESTER .	Not more than 10 per cent.	Equipped smallholding of 15-20 acres, or a few acres of bare land.
YORKSHIRE— EAST RIDING	20 per cent.	5-20 acres of accommodation land of various types.
YORKSHIRE— NORTH RIDING	15 per cent.	3-10 acres grass to keep a pony, a few cows, poultry, etc.

County	What percentage of your tenants are part-time small-holders?	What size and type of holding do they occupy?
WALES—		
CAERNARVON .	14 per cent.	About 10 acres.
CARDIGAN .	60 per cent.	Grazing for 3 or 4 cows.
CARMARTHEN	60 per cent.	Dairy holdings of 5-50 acres, market gardens of about 5 acres.
FLINT . .	25 per cent.	5-20 acres.
GLAMORGAN .	33 per cent.	5-10 acres of bare-land pasture.
MERIONETH .	20 per cent.	About 7 acres to keep a couple of cows, pigs and poultry.
MONTGOMERY .	About 25 per cent.	Small grass holdings, or accommodation fields.
MONMOUTH .	About 40 per cent.	Unequipped holdings or equipped holdings of 1-20 acres.

APPENDIX C

Farming Area in England and Wales, 1924 and 1933

Year	Area under Crops and Grass	Arable	Permanent Grass	Rough Grazing
	Acres	Acres	Acres	Acres
1924 . .	25,876,797	10,928,673	14,948,124	4,946,338
1933 . .	25,119,648	9,249,886	15,869,762	5,397,776
Change + or −	− 757,159	− 1,678,787	+ 921,638	+ 451,438

Oxford	4,889	91	1,303	6,283	235	355	9,139	2	17
Rutland	..	..	347	347	13	14	592	..	..
Salop	7,560	..	467	8,027	327	346	20,547	7	54
Soke of Peterborough	3,486	..	124	3,610	250	240	9,592	3	3½
Somerset	20,043	108	1,933	22,084	998	1,396	58,578	8	115
Stafford	6,713	56	501	7,270	316	337	18,577	1	6
Suffolk, East	4,324	..	206	4,530	184	201	7,730	22	231
Suffolk, West	9,388	..	141	9,529	387	528	14,118	1	4
Surrey	2,485	..	173	2,658	277	288	13,047	3	18½
Sussex, East	1,860½	..	374½	2,235	149	180	5,176	2	21
Sussex, West	2,011	..	1	2,012	119	126	6,390	2	43
Warwick	5,096	57	372	5,525	282	371	12,635	10	104
Westmorland	89	..	106	195	24	24	473	..	..
Wiltshire	11,111	1,460	2,879	15,360	639	662	33,468	13	255½
Worcester	4,660	..	622	5,282	1,100	1,233	12,767	173	446
Yorkshire, East Riding	6,604	..	1,306	7,910	325	483	14,842	5	21
Yorkshire, North Riding	3,131	..	357	3,488	107	129	6,641	..	..
Yorkshire, West Riding	13,811	..	887	14,698	544	484	31,558	4	89
County Boroughs	5,548	..	958	6,504	749	855	19,518	31	44
TOTAL, ENGLAND	332,968	6,171	50,903½	390,152½	24,438	27,180	882,305	767	4,815¾
WALES.									
Anglesey	6,645¾	220½	544¼	7,419½	276	288	11,264	4	110
Brecon	204	..	908	1,112	60	63	1,302	..	..
Caernarvon	3,014	..	..	3,014	89	94	3,390	1	6
Cardigan	243	..	2,986	3,229	52	52	1,128	19	439
Carmarthen	2,246½	..	1,957	4,203½	182	185	6,213	1	¼
Denbighshire	5,333	..	795	6,128	295	284	9,846	22	560
Flint	4,053	..	162	4,215	174	171	9,560	6	92½
Glamorgan	3,574¼	..	3,293¾	6,868¼	232	267	12,499	1	12¾
Merioneth	2,713¾	..	1,465½	4,179¼	133	133	3,152	3	96¾
Monmouth	5,817	2	346¾	6,165¾	195	226	10,022	6	228
Montgomery	8,190	..	252	8,442	289	316	12,160	6	166
Pembroke	4,830	..	857	5,687	186	202	7,450	3	2
Radnor	2,504	..	349	2,943	89	97	3,476	..	..
County Boroughs	467½	..	258	725½	34	34	1,841	9	71¾
TOTAL, WALES	49,925¾	231½	14,174¼	64,331½	2,288	2,412	93,672	81	1,785
TOTAL, ENGLAND AND WALES	382,913¾	6,402½	65,167¾	454,484	26,726	29,592	975,977	848	6,600¾

(*a*) Includes 11 Societies with 483 tenants (38 members cultivate over 1 acre of land).
(*b*) Includes 11 Associations or Councils with 130 sub-tenants.

APPENDIX D

Particulars of all Land in the Possession of County Councils and the Councils of County Boroughs for Smallholdings at 31st December 1933, or Sold for Smallholdings prior to that Date.

	Land still retained by Councils (excluding all land sold or surrendered whether for Smallholdings or otherwise)							Land sold for Smallholdings or Cottage Holdings, 1908-33	
	Area purchased for Cash	Area purchased for Annuity or Rent Charge	Area Hired	Total Area	No. of Smallholdings Tenants	No. of Smallholdings	Smallholdings Rent Roll		
England.	Acres	Acres	Acres	Acres	No.	No.	£	No.	Acres
Bedford	8,454	1,018	3,282	12,754	1,813	1,813	30,864	7	119
Berkshire	3,420	356	737	4,513	138	186	7,593	6	42
Buckingham	8,676	..	2,358	11,034	368	442	18,381	..	..
Cambridge	17,268	54	1,049	18,371	1,939	1,939	29,164	7	123
Cheshire	11,781	264	23	12,068	365	427	31,761	15	218
Cornwall	11,182	45	547	11,774	419	497	21,143	24	196
Cumberland	500	..	845	1,345	61	19	1,797	2	21½
Derby	2,978	43	63	3,084	146	146	7,812	8	70
Devon	14,159	161	2,310	16,630	809	913	31,726	48	708
Dorset	4,860	1,009	3,997	9,866	363	387	19,685	8	28
Durham	2,421	..	2,462	4,883	291 (*a*)	291	9,302	4	14
Essex	6,682	285	267	7,234	353	353	17,421	47	257½
Gloucester	10,877	476	2,620	13,973	881	982	28,187	14	117
Hampshire	3,376	114	1,309	4,799	439	495	10,862	197	1,030
Hereford	5,014	..	520	5,534	182	182	10,935	..	..
Hertford	4,516½	88	1,764	6,368½	288	288	11,275	10	32
Huntingdon	10,047	..	773	10,820	671	760	35,186	..	..
Isle of Ely	12,476	..	1,485	13,961	2,147	2,499	42,792	2	10
Isle of Wight	1,437	71	118	1,626	74	74	3,010	12	27
Kent	5,841	..	188	6,029	334	349	15,029	12	166
Lancashire	4,105	..	718	4,823	448	551	15,720	6	15
Leicester	8,001	57	147	8,205	227	226	16,082	2	42
Lincoln (Holland)	9,762	..	3,296	13,058	1,065	1,311	40,282	..	..
Lincoln (Kesteven)	6,174	..	413	6,587	354 (*b*)	340	13,810	..	..
Lincoln (Lindsey)	7,977	..	529	8,506	320	359	19,230	..	..
Middlesex	1,425	..	122	1,547	102	140	5,854	..	..
Norfolk	25,754	358	3,126	29,238	2,085	2,085	66,526	6	50
Northampton	3,019	..	1,337	4,356	272	272	7,593	..	..
Northumberland	4,168	..	1,066	5,234	165	165	9,771	3	3
Nottingham	3,830	..	555	4,385	294	428	8,124	40	54½

APPENDIX E

Average Price per Acre of Land Suitable for Smallholdings of Various Types in Districts throughout England

District No. 1	Type of Farm	Price per Acre
		£
Lancashire—		
Furness Area	Dairy or stock rearing	30-40
West	Dairy, poultry or market garden	40-60
South-West	Arable, poultry or market garden	35-45
East	Stock rearing or poultry	30-40
General	Mixed	25-45
Cheshire—		
South	Dairy	35-45
North and Centre	Mixed arable	30
North-West and North-East	Mixed, poultry or market garden	45-60
Staffordshire—		
North and South	Poultry	25-35
North-West	Dairy	35-45
West	Mixed (100-150 acres)	25-35
	„ (150-400 acres)	20-30
Derbyshire—		
South-West	Dairy	30-35
North-East	Mixed or poultry	25-35
South	Market garden	40-50
„	Mixed or poultry	25-35
Cumberland—		
West	Poultry (small areas)	35-60
„	Mixed or poultry	20-30
North and North-East	Stock rearing (100 to 150 acres)	25-35
„ „	„ „ (150 to 300 acres)	15-25
Westmorland—		
North-East and South	Stock rearing, dairy or poultry	25-35
District No. 2.		
Northumberland, Durham	Mixed or dairy	20-30
Yorkshire, North Riding, „ West „, „ East „	Poultry (Mainly urban districts)	30-45

	Type of Farm	Price per Acre £
District No. 3.		
Lincoln, Holland	Dairy	30-35
„ Kestoven		
„ Lindsey	Mixed	25-30
Nottingham		
Leicester	Market garden	75
Rutland		
Northampton	Poultry (bare land)	25
Soke of Peterborough		
Bedford		
District No. 4.		
Shropshire	Dairy	30-35
Warwick	Mixed	26
Hereford	Market garden	60
Worcester	Poultry (bare land)	18
Gloucester		
District No. 5.		
Norfolk	Mixed or poultry	8-17
East Suffolk		
West Suffolk	Market garden and fruit	25-30
Cambridge		
Isle of Ely	Potato and fruit	40-60
Huntingdon		
District No. 6.		
Devon and Cornwall	Mixed and dairy (£17-£45)	30
Somerset	Dairy (£25-£55)	40
Dorset	Mixed and Dairy (£20-£50)	32
General	Market garden	65-80
District No. 7.		
Buckinghamshire	Dairy	27-35
Berkshire	Dairy with some arable	22-30
Oxford	Mixed and stock rearing	10-16
Hampshire	Poultry	15-20
Isle of Wight	Market garden	50-75
Wiltshire	„ „ (light soil)	15-25
District No. 8.		
Kent	Market garden	30-80
	Dairy	25
	Mixed	18-25
East and West Sussex	Market garden (Worthing area)	100
	Market garden	30-40
	Dairy and mixed	20-35
Surrey	Market garden	50
	Dairy and poultry	35

District No. 8—contd.	Type of Farm	Price per Acre
		£
Middlesex	Market garden	80-150
	Dairy and mixed	50
Essex	Market garden (south-east area)	50-100
	,, ,, (Southend area)	70-100
	Dairy (Witham and Colchester)	30
	Average for county except areas mentioned and where there is no building value	18-25
Hertfordshire . . .	Market garden adjacent to towns excluding any building value	50
	Mixed farms	18-25

APPENDIX F

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